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PARTS 70 TO 89
Revised as of October 1, 1990

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PARTS 70 TO 89

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Cite this Code: CFR

*To cite the regulations in
this volume use title,
part and section
number. Thus, 46 CFR
70.01-1 refers to title 46,
part 70, section 01-1.*

Explanation

The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The Code is divided into 50 titles which represent broad areas subject to Federal regulation. Each title is divided into chapters which usually bear the name of the issuing agency. Each chapter is further subdivided into parts covering specific regulatory areas.

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Each volume of the Code is revised at least once each calendar year and issued on a quarterly basis approximately as follows:

Title 1 through Title 16.....	as of January 1
Title 17 through Title 27.....	as of April 1
Title 28 through Title 41.....	as of July 1
Title 42 through Title 50.....	as of October 1

The appropriate revision date is printed on the cover of each volume.

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The contents of the Federal Register are required to be judicially noticed (44 U.S.C. 1507). The Code of Federal Regulations is prima facie evidence of the text of the original documents (44 U.S.C. 1510).

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The Paperwork Reduction Act of 1980 (Pub. L. 96-511) requires Federal agencies to display an OMB control number with their information collection request. Many agencies have begun publishing numerous OMB control numbers as amendments to existing regulations in the CFR. These OMB numbers are placed as close as possible to the applicable recordkeeping or reporting requirements.

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MARTHA L. GIRARD,

Director,

Office of the Federal Register.

October 1, 1990.

THIS TITLE

Title 46—SHIPPING is composed of nine volumes. The parts in these volumes are arranged in the following order: Parts 1-40, 41-69, 70-89, 90-139, 140-155, 156-165, 166-199, 200-499 and 500-end. The first seven volumes containing parts 1-199 comprise Chapter I—Coast Guard, Department of Transportation. The eighth volume containing parts 200 to 499 includes Chapter II—Maritime Administration, Department of Transportation and Chapter III—Coast Guard (Great Lakes Pilotage), Department of Transportation. The ninth volume containing part 500-End includes Chapter IV—Federal Maritime Commission. The contents of these volumes represent all current regulations codified under this title of the CFR as of October 1, 1990.

Subject indexes appear for Subchapter B—Merchant Marine Officers and Seamen, Subchapter C—Uninspected Vessels, and Subchapter D—Tank Vessels following the subchapters in parts 1-40; for Subchapter F—Marine Engineering following the subchapter in parts 41-69; for Subchapter H—Passenger Vessels following the subchapter in parts 70-89; for Subchapter I—Cargo and Miscellaneous Vessels, Subchapter I-A—Mobile Offshore Drilling Units, and Subchapter J—Electrical Engineering following the subchapters in parts 90-139; for Subchapter S—Subdivision and Stability and for Subchapter T—Small Passenger Vessels (Under 100 Gross Tons) following the subchapters in parts 166-199.

Redesignation tables for Chapter I—Coast Guard appear in the Finding Aids section of the volumes containing parts 1-40, parts 41-69, parts 70-89, parts 90-139, parts 140-155, parts 156-165, and parts 166-199. A redesignation table for Chapter II—Maritime Administration appears in the Finding Aids section of the volume containing parts 200-499. A redesignation table for Chapter IV—Federal Maritime Commission appears in the Finding Aids section of the volume containing part 500-End.

For this volume Shell Fleming was Chief Editor. The Code of Federal Regulations publication program is under the direction of Richard L. Claypoole, assisted by Alomha S. Morris.

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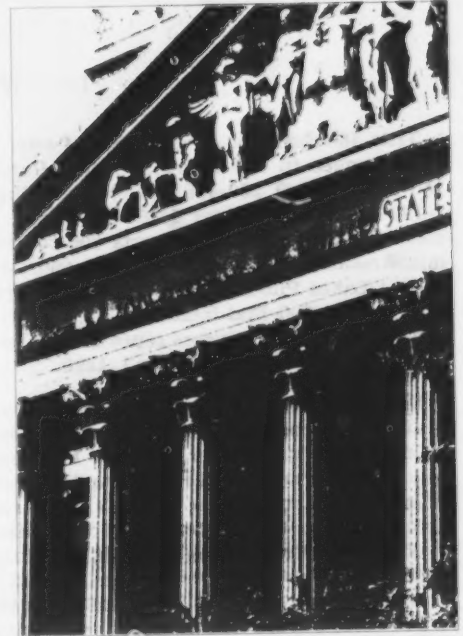
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Title 46—Shipping

(This Book contains Parts 70-89)

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CHAPTER I—COAST GUARD, DEPARTMENT OF TRANSPORTATION (Continued)

EDITORIAL NOTE: For nomenclature changes to Chapter I, see CGD 82-072, 47
FR 28677, July 1, 1982.

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AUTHORITY: 46 U.S.C. 3306, 3703; 49 U.S.C. App. 1804, E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.45, 1.46; Section 70.01-15 also issued under the authority of 44 U.S.C. 3507.

SOURCE: CGFR 65-50, 30 FR 16890, Dec. 30, 1965, unless otherwise noted.

Subpart 70.01—Authority and Purpose**§ 70.01-1 Purpose of regulations.**

(a) The purpose of the regulations in this subchapter is to set forth uniform minimum requirements for passenger vessels in accordance with the intent of title 52 of the Revised Statutes and acts amendatory thereof or supplemental thereto, as well as to implement various International Conventions for Safety of affect the merchant marine. The regulations are necessary to carry out the provisions of law affecting passenger vessels and such regulations have the force of law.

Coast Guard, DOT

§ 70.05-1

§ 70.01-5 Assignment of functions.

(a) The Department of Transportation Act (Public Law 89-670, 80 Stat. 931-950, 49 U.S.C. 1651-1659), transferred to and vested in the Secretary of Transportation "... all functions, powers, and duties, relating to the Coast Guard, of the Secretary of the Treasury and of other officers and offices of the Department of the Treasury" (subsection 6(b)(1), 49 U.S.C. 1655(b)). This transfer is subject to certain conditions, modifications, and exceptions as set forth in such act. By a rule in 49 CFR 1.4(a) the Secretary of Transportation delegated to the Commandant, U.S. Coast Guard, authority to exercise certain functions, powers, and duties as set forth in subsections 6(a)(4), 6(b)(1) and 6(g) of such act (49 U.S.C. 1655), subject to conditions, exceptions and modifications as described in 49 CFR Part 1. By a rule in 49 CFR 1.9 the Secretary of Transportation continued in effect actions taken prior to April 1, 1967.

(b) The Commandant, U.S. Coast Guard, in a notice dated March 31, 1967, and effective April 1, 1967 (32 FR 5611), approved the continuation of orders, rules, regulations, policies, procedures, privileges, waivers, and other actions, which had been made, allowed, granted, or issued prior to April 1, 1967, and provided that they shall continue in effect according to their terms until modified, terminated, repealed, superseded, or set aside by appropriate authority.

[CGFR 68-32, 33 FR 5715, Apr. 12, 1968]

§ 70.01-7 Right of appeal.

Any person directly affected by a decision or action taken under this subchapter, by or on behalf of the Coast Guard, may appeal therefrom in accordance with subpart 1.03 of this chapter.

[54 FR 50380, Dec. 6, 1989]

§ 70.01-15 OMB control numbers assigned pursuant to the Paperwork Reduction Act.

(a) *Purpose.* This section collects and displays the control numbers assigned to information collection and record-keeping requirements in this subchapter by the Office of Management and Budget (OMB) pursuant to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). The Coast Guard intends that this section comply with the requirements of 44 U.S.C. 3507(f) which requires that agencies display a current control number assigned by the Director of the OMB for each approved agency information collection requirement.

(b) *Display.*

46 CFR part or section where identified or described	Current OMB control No.
71.10	2115-0138
71.50-5	2115-0554

[49 FR 38120, Sept. 27, 1984, as amended by CGD 88-072, 53 FR 34297, Sept. 6, 1988]

Subpart 70.05—Application

§ 70.05-1 United States flag vessels subject to the requirements of this subchapter.

(a) This subchapter shall be applicable to all United States flag vessels indicated in Column 4 of Table 70.05-1(a) that are 100 gross tons or more, except as follows:

(1) Any vessel operating exclusively on inland waters which are not navigable waters of the United States; or,

(2) Any vessel while laid up and dismantled and out of commission; or,

(3) With the exception of vessels of the U.S. Maritime Administration, any vessel with title vested in the United States and which is used for public purposes.

TABLE 70.05-1(a)

Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations.¹

Method of propulsion	Size or other limitations ¹	Vessels inspected and certificated under Subchapter D—Tank Vessels ²	Vessels inspected and certificated under either Subchapter H—Passenger or Subchapter T—Small Passenger Vessels ^{3,4}	Vessels inspected and certificated under Subchapter I—Cargo and Miscellaneous Vessels ⁵	Vessels subject to provisions of Subchapter C—Uninspected Vessels ^{6,7,8,9}	Vessels subject to provisions of Subchapter J—Oceanographic Vessels ^{10,11,12}	Vessels subject to the provisions of Subchapter K—Great Lakes Dangerous Cargoes ¹³
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Steam	Vessels not over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers ⁷ .	All tugboats and towboats.	All vessels except those covered by columns 3, 4, 5, and 7.	None	All vessels carrying in bulk the cargoes listed in table 1 of pt. 153 and table 4 of pt. 154.
	Vessels over 65 feet in length.	All vessels carrying combustible or flammable liquid cargo in bulk. ²	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All vessels of not over 15 gross tons which carry more than 6 passengers ⁷ . 3. All other vessels carrying passengers, ⁷ except: a. Yachts. b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4.	None	All vessels engaged in oceanographic research.	Do.

c. Towing and fishing vessels, in other than ocean and coastwise service, may carry persons on the legitimate business of the vessel, in addition to crew, but not to exceed one for each net ton of the vessel.

Motor	Vessels not over 15 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying combustible or flammable liquid cargo in bulk.	Those vessels carrying dangerous cargoes when required by 46 CFR Part 98 or 49 CFR Parts 171-179.	All vessels except those covered by columns 3, 4, 5, and 7.	None	Do.
	Vessels over 15 gross tons except seagoing motor vessels of 300 gross tons and over.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying freight for hire except those covered by column 3 and 4.	All vessels except those covered by columns 3, 4, 5, and 7.	None	Do.
				1. All vessels carrying more than 12 passengers on an international voyage, except yachts.	All vessels except those covered by columns 3, 4, 5, and 7.	None	Do.
				2. All vessels not over 65 feet in length which carry more than 6 passengers.			
				3. All other vessels of over 65 feet in length carrying passengers for hire except documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.			

TABLE 70.05-1(a)—Continued

Classes of vessels (including motorboats) examined or inspected under various Coast Guard regulations ¹						
Method of propulsion	Size or other limitations ¹	Vessels inspected and certificated under Subchapter D—Tank Vessels ²	Vessels inspected and certificated under either Subchapter H—Passenger Vessels ³ or Subchapter T—Small Passenger Vessels ⁴	Vessels inspected and certificated under Subchapter I—Cargo Vessels ⁵ and Miscellaneous Vessels ⁶	Vessels subject to provisions of Subchapter C—Uninspected Vessels ⁷	Vessels subject to provisions of Subchapter U—Oceanographic Research Vessels ⁸
Sailing motor vessels of 300 gross tons and over.		All vessels carrying combustible or flammable liquid cargo in bulk ⁹ .	1. All vessels carrying more than 12 passengers on an international voyage, except yachts. 2. All other vessels carrying passengers, ¹⁰ except: a. Yachts. b. Documented cargo or tank vessels issued a permit to carry not more than 16 persons in addition to the crew.	All vessels except those covered by columns 3 and 4, and those engaged in the fishing, oystering, clamming, crabbing, or any other branch of the fishery, kelp, or sponge industry.	All vessels except those covered by columns 3, 4, 5, and 7.	All vessels engaged in oceanographic research.
Sail	Vessels not over 700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying more than 6 passengers ¹¹ .	Those vessels carrying dangerous cargoes when required by 46 CFR part 95 or 49 CFR parts 171-178.	None	None
						Do.

Vessels over 700 gross tons.	All vessels carrying combustible or flammable liquid cargo in bulk.	All vessels carrying passengers for hire.	Those vessels carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171-179.	None	None	Do.
Non-self-propelled.	Vessels less than 100 gross tons.	All vessels carrying more than 6 passengers ¹ .	Those vessels carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171-179.	All barges carrying passengers except those covered by column 4.	None	All tank barges carrying in bulk the cargoes listed in table 151.05 of this chapter. ¹¹
Self-propelled.	Vessels 100 gross tons or over.	All vessels carrying passengers for hire.	All seagoing barges except those covered by columns 3 and 4; and those inland barges carrying dangerous cargoes when required by 46 CFR part 98 or 49 CFR parts 171-179.	All barges carrying passengers except those covered by columns 4 and 7.	All seagoing barges engaged in oceanographic research.	Do.

¹ Where length is used in this table it means the length measured from end to end over the deck, excluding sheer. This expression means a straight line measurement of the overall length from the foremost part of the vessel to the sternmost part of the vessel.

² The provisions of 46 CFR parts 171-179 apply whenever hazardous materials are on board vessels (including motorboats), except when specifically exempted by law.

³ Public nautical schools, other than vessels of the Navy and Coast Guard, shall meet the requirements of part 167 of subchapter R (Nautical Schools) of this chapter.

⁴ Subchapter H (Passenger Vessels) of this chapter covers only those vessels of 100 gross tons or more. Subchapter T (Small Passenger Vessels) of this chapter covers only those vessels of less than 100 gross tons.

⁵ Vessels covered by subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter, where the principal purpose or use of the vessel is not for the carriage of liquid cargo, may be granted a permit to carry a limited amount of flammable or combustible liquid cargo in bulk. The portion of the vessel used for the carriage of the flammable or combustible liquid cargo shall meet the requirements of subchapter D (Tank Vessels) in addition to the requirements of subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of this chapter.

⁶ Any vessel on an international voyage is subject to the requirements of the International Convention for Safety of Life at Sea, 1974.

⁷ The meaning of the term "passenger" is as defined in the Act of May 10, 1956 (Sec. 1, 70 Stat. 151; 46 U.S.C. 390). On oceanographic vessels scientific personnel on board shall not be deemed to be passengers nor seamen, but for calculations of lifesaving equipment, etc., shall be counted as persons.

⁸ Boilers and machinery are subject to examination on vessels over 40 feet in length.

⁹ Under 46 U.S.C. 441 an "oceanographic research vessel" is a vessel "being employed exclusively in instruction in oceanography or limnology, or both, or exclusively in oceanographic research."

¹⁰ Under 46 U.S.C. 443, "an oceanographic research vessel" is a vessel "being employed exclusively in instruction in oceanography or limnology, or both, or exclusively in oceanographic research."

¹¹ Bulk dangerous cargoes are carried in the following manner: (1) For manned tank barges see § 151.01-10(e) of this chapter.

§ 70.05-3

(b) The requirements for notification of safety standards and for safety information and country of registry in promotional literature or advertising of a domestic passenger vessel of 100 gross tons or over having berth or stateroom accommodations for 50 or more passengers are contained in part 80 of this chapter.

[CGFR 65-50, 30 FR 16890, Dec. 30, 1965, as amended by CGFR 67-83, 33 FR 1107, Jan. 27, 1968; CGFR 70-10, 35 FR 3710, Feb. 25, 1970; CGD 72-187R, 38 FR 9081, Apr. 10, 1973; CGP 73-96, 42 FR 49024, Sept. 26, 1977; CGD 86-033, 53 FR 33024, Sept. 16, 1988; 53 FR 46871, Nov. 21, 1988; CGD 90-008, 55 FR 30660, July 26, 1990]

§ 70.05-3 Foreign vessels subject to the requirements of this subchapter.

(a) Except as specifically noted in paragraphs (b) and (e), and (f) of this section, parts 70 to 78, inclusive, of this subchapter, shall be applicable to the extent prescribed by law to all foreign vessels of the following classifications indicated in column 4 of Table 70.05-1(a) that are 100 gross tons or over:

(1) Foreign vessels which carry more than 12 passengers from any port in the United States; or,

(2) Foreign vessels, other than those mentioned in paragraph (a)(1) of this section, which carry more than 6 passengers from any port in the United States, and which are:

(i) Sailing vessels of 100 gross tons or over and not more than 700 gross tons; or,

(ii) Non-self-propelled vessels of 100 gross tons.

(b) The provisions of parts 70 to 78, inclusive, of this subchapter shall not be applicable to those foreign vessels covered by paragraph (a) of this section which are:

(1) Any vessel of a foreign nation signatory to the International Convention for Safety of Life at Sea, 1974, and which has on board a current valid safety certificate; or,

(2) Any vessel of a foreign nation having inspection laws approximating those of the United States together with reciprocal inspection arrangements with the United States, and which has on board a current valid

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certificate of inspection issued by its government under such arrangements.

(c) Notwithstanding the exceptions previously noted in paragraph (b) of this section, foreign vessels of novel design or construction, or whose operation involves potential unusual risks shall be subject to inspection to the extent necessary to safeguard life and property in United States' ports, as further provided by § 2.01-13 of subchapter A (Procedures Applicable to the Public) of this chapter.

(d) The requirements for notification of safety standards and for safety information and country of registry in promotional literature or advertising of a foreign passenger vessel of 100 gross tons or over having berth or stateroom accommodations for 50 or more passengers are contained in part 80 of this chapter.

(e) Notwithstanding the other provisions of this section, foreign passenger vessels of over 100 gross tons having berth or stateroom accommodations for more than 50 persons and departing a United States port with passengers who are United States nationals and who embarked at that port shall comply with the provisions of the International Convention for Safety of Life at Sea, 1974.

(f) Notwithstanding the exceptions noted in paragraph (b) of this section, each foreign vessel must report marine casualties occurring while the vessel is in the navigable waters of the United States as required by subpart 78.07.

[CGFR 65-50, 30 FR 16890, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15280, Dec. 6, 1966; CGFR 68-65, 33 FR 19985, Dec. 28, 1968; CGFR 69-106a, 35 FR 16834, Oct. 31, 1970; CGD 72-187R, 38 FR 9081, Apr. 10, 1973; CGD 77-042, 42 FR 63643, Dec. 19, 1977; CGD 90-008, 55 FR 30661, July 26, 1990]

§ 70.05-5 Specific application noted in text.

(a) At the beginning of the various parts, subparts, and sections, a more specific application is generally given for the particular portion of the text involved. This application sets forth the types, sizes, or services or vessels to which the text pertains, and in many cases limits the application of the text to vessels contracted for

before or after a specific date. As used in this subchapter, the term "vessels contracted for" includes not only the contracting for the construction of a vessel, but also the contracting for a material alteration to a vessel, the contracting for the conversion of a vessel to a passenger vessel, and the changing of service or route of a vessel if such change increases or modifies the general requirements for the vessel or increases the hazards to which it might be subjected.

§ 70.05-7 Ocean or unlimited coastwise vessels on inland and Great Lakes Routes.

(a) Vessels inspected and certificated for ocean or unlimited coastwise routes shall be considered suitable for navigation insofar as the provisions of this subchapter are concerned on any inland route, including the Great Lakes.

§ 70.05-10 Application to vessels on an international voyage.

(a) Except as provided in paragraphs (b), (c), and (d) of this section, the regulations in this subchapter that apply to a vessel on a "international voyage" apply to a vessel that—

(1) Is mechanically propelled and carries more than 12 passengers; and

(2) Is engaged on a voyage—

(i) From a country to which the International Convention for Safety of Life at Sea, 1974, (SOLAS 74) applies, to a port outside that country or the reverse;

(ii) From any territory, including the Commonwealth of Puerto Rico, all possessions of the United States and all lands held by the United States under a protectorate or mandate, whose international relations are the responsibility of a contracting SOLAS 74 government, or which is administered by the United Nations, to a port outside that territory or the reverse; or

(iii) Between the contiguous states of the United States and the states of Hawaii or Alaska or between the states of Hawaii and Alaska.

(b) The regulations that apply to a vessel on an "international voyage" in this subchapter do not apply to ships engaged on a voyage solely on the

Great Lakes and the St. Lawrence River as far east as a straight line drawn from Cap des Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63rd Meridian;

(c) The Commandant or his authorized representative may exempt any vessel on an international voyage from the requirements of this subchapter if the vessel—

(1) Makes a single international voyage in exceptional circumstances; and

(2) Meets safety requirements prescribed for the voyage by the Commandant.

(d) The Commandant or his authorized representative may exempt any vessel from the construction or lifesaving requirements of this subchapter if—

(1) The vessel does not proceed more than 20 miles from the nearest land in the course of its voyage; and

(2) The Commandant determines that the conditions of the voyage render the application of the full lifesaving requirements unreasonable or unnecessary.

[CGD 72-131R, 38 FR 29320, Oct. 24, 1973, as amended by CGD 90-008, 55 FR 30661, July 26, 1990]

§ 70.05-12 Application to vessels concerning nuclear energy.

(a) Pertinent definitions are in § 70.10-30.

(b) Special provisions for "nuclear vessels" are in part 79 of this subchapter.

(c) The regulations covering the transportation and handling of radioactive materials as cargo are in 49 CFR parts 171-179.

(d) The regulations covering pressure containing portions of nuclear power systems are in part 55 of subchapter F (Marine Engineering) of this chapter. See § 56.04-20 of subchapter F (Marine Engineering) of this chapter for nuclear piping. See subpart 61.25 of subchapter F (Marine Engineering) of this chapter for requirements regarding periodic tests and inspections of nuclear reactor power plants.

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[CGFR 68-82, 33 FR 18898, Dec. 18, 1968 as amended by CGD 86-033, 53 FR 36024, Sept. 16, 1988]

§ 70.05-15 Vessels subject to the act of May 10, 1956 (46 U.S.C. 390-390g).

(a) The act of May 10, 1956 (46 U.S.C. 390-390g), applies to vessels which carry more than six passengers and which are:

(1) Sailing vessels of 100 gross tons or over and not more than 700 gross tons; or,

(2) Non-self-propelled vessels of 100 gross tons.

(b) Sailing vessels of 100 gross tons or over and not more than 700 gross tons and non-self-propelled vessels of 100 gross tons, which are subject to the act of May 10, 1956, shall meet all of the applicable requirements of this subchapter, except that the certificate of inspection issued to the vessel shall be valid for a period of 3 years in lieu of 1 year, and reinspection will be made annually between inspections for certification.

(c) Sailing vessels of 100 gross tons or over and not more than 700 gross tons and non-self-propelled vessels of 100 gross tons, in existence or contracted for as passenger vessels prior to June 1, 1958, which are subject to the act of May 10, 1956, shall meet the applicable requirements of this subchapter insofar as is reasonable and practicable in the opinion of the Officer in Charge, Marine Inspection. In this respect, he may grant departures from specific requirements of this subchapter if in his opinion the circumstances warrant such departure.

[CGFR 66-33, 31 FR 15280, Dec. 6, 1966]

§ 70.05-20 Gross tonnage as a criterion for requirements.

(a) The regulations in this subchapter, as well as referenced requirements in other subchapters in this chapter, take into account the passenger vessel's size, construction, and equipment, as well as its intended service on the routes or waters on which it is desired to be operated or navigated, which are indications of the hazards to which such vessel may be subjected. The Commandant's determinations in this respect for a particular passenger vessel are stipulated in a certificate of

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inspection, which states certain terms and conditions governing such vessel when in operation.

(b) In applying the laws and regulations to passenger vessels, one criterion for invocation of safety standards is the description of passenger vessels by relative size in gross tons. When it is determined by the Commandant that the gross register tonnage for a particular passenger vessel, which is attained by exemptions, reductions, or other devices in the basic gross tonnage formulation, will circumvent or be incompatible with the application of specific safety requirements in the passenger vessel regulations for a vessel of such physical size, the Commandant shall prescribe the regulations to be made applicable to such vessel.

(c) When the Commandant determines that the gross register tonnage is not a valid criterion for the invocation of safety requirements based on relative size, the parties involved will be informed of the determination and of the regulations applicable to such passenger vessel, and before being permitted to operate such vessel, compliance therewith shall be required. Endorsements or notations on the passenger vessel's certificate of inspection may be made as appropriate.

§ 70.05-25 Portable tanks—interpretive rulings.

(a) The phrase "drums, barrels, or other packages," as used in R.S. 4417a, as amended (46 U.S.C. 391a), and in R.S. 4472, as amended (46 U.S.C. 170), is interpreted to mean portable tanks having a maximum capacity of 110 U.S. gallons and Department of Transportation specification cylinders having a water capacity of not more than 1,000 pounds, which are actually loaded and discharged from vessels with their contents intact.

(b) The phrase "inflammable or combustible liquid cargo in bulk" as used in R.S. 4417a, as amended (46 U.S.C. 391a), and in R.S. 4472, as amended (46 U.S.C. 170), is interpreted to include such cargo in portable tanks of a capacity of more than 110 U.S. gallons.

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(c) The phrase "liquid cargo" as used in R.S. 4417a, as amended (46 U.S.C. 391a), is interpreted to mean flammable or combustible liquids.

[CGFR 65-50, 30 FR 16890, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17483, Oct. 29, 1969]

§ 70.05-30 Combustible liquid in bulk.

Vessels inspected and certificated under this subchapter may carry limited quantities of combustible liquid cargo in bulk in the grades indicated, provided the certificate of inspection is endorsed to permit such carriage:

(a) Grade E in an integral tank; and

(b) Grade E in a portable tank, including a marine portable tank, in accordance with subpart 98.30 or 98.33 of this chapter.

[CGD 84-043, 55 FR 37410, Sept. 11, 1990]

Subpart 70.10—Definition of Terms Used in This Subchapter

§ 70.10-1 Approved.

This term means approved by the Commandant unless otherwise stated.

§ 70.10-2 Barge.

This term means any nonself-propelled vessel.

§ 70.10-3 Carrying passengers for hire.

The carriage of any person or persons by a vessel for a valuable consideration, whether directly or indirectly flowing to the owner, charterer, operator, agent or any other person interested in the vessel.

§ 70.10-5 Carrying freight for hire.

The carriage of any goods, wares, or merchandise or any other freight for a valuable consideration whether directly or indirectly flowing to the owner, charterer, operator, agent, or any other person interested in the vessel.

§ 70.10-7 Classed vessel.

This term means any vessel classed by the American Bureau of Shipping or other recognized classification society.

§ 70.10-9 Commandant.

This term means the Commandant of the Coast Guard.

§ 70.10-11 Coast Guard District Commander.

This term means an officer of the Coast Guard designated as such by the Commandant to command all Coast Guard activities within his district, which include the inspection, enforcement, and administration of title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 70.10-13 Coastwise.

Under this designation shall be included all vessels normally navigating the waters of any ocean or the Gulf of Mexico 20 nautical miles or less offshore.

§ 70.10-15 Ferry.

Under this designation shall be included those vessels, in other than ocean or coastwise service, having provisions only for deck passengers and/or vehicles, operating on a short run on a frequent schedule between 2 points over the most direct water route, and offering a public service of a type normally attributed to a bridge or tunnel.

§ 70.10-17 Great Lakes.

Under this designation shall be included all vessels navigating the Great Lakes.

§ 70.10-19 Headquarters.

This term means the Office of the Commandant, United States Coast Guard, Washington, DC 20593.

[CGFR 65-50, 30 FR 16890, Dec. 30, 1965, as amended by CGD 82-063b, 48 FR 4781, Feb. 3, 1983]

§ 70.10-23 Lakes, bays, and sounds.

Under this designation shall be included all vessels navigating the waters of any of the lakes, bays, or sounds other than the waters of the Great Lakes.

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§ 70.10-25 Marine inspector or inspector.

These terms mean any person from the civilian or military branch of the Coast Guard assigned under the superintendence and direction of an Officer in Charge, Marine Inspection, or any other person as may be designated for the performance of duties with respect to the inspection, enforcement, and administration of title 52, Revised Statutes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 70.10-29 Motor vessel.

This term means any vessel more than 65 feet in length, which is propelled by machinery other than steam.

§ 70.10-30 Nuclear energy, radioactive material, and nuclear vessel.

(a) The term "nuclear energy" means all forms of energy released by nuclear fission or radioactive decay, or by any other form of nuclear transformation.

(b) The term "radioactive material" means any material or combination of materials that spontaneously emits ionizing radiation.

(c) The term "nuclear vessel" means any vessel in which power for propulsion, or for any other purpose, is derived from nuclear energy; or any vessel handling or processing substantial amounts of radioactive material other than as cargo.

[CGFR 68-82, 33 FR 18898, Dec. 18, 1968]

§ 70.10-31 Ocean.

Under this designation shall be included all vessels navigating the waters of any ocean or the Gulf of Mexico more than 20 nautical miles offshore.

§ 70.10-33 Officer in Charge, Marine Inspection.

This term means any person from the civilian or military branch of the Coast Guard designated as such by the Commandant and who, under the superintendence and direction of the Coast Guard District Commander, is in charge of an inspection zone for the performance of duties with respect to the inspections, enforcement, and administration of title 52, Revised Stat-

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utes, and acts amendatory thereof or supplemental thereto, and rules and regulations thereunder.

§ 70.10-35 Passenger.

A passenger is every person other than the master and the members of the crew or other persons employed or engaged in any capacity on board a vessel in the business of that vessel. The following special considerations should be noted:

(a) In the case of a vessel on an international voyage a child under one year of age is not counted as a passenger.

(b) For vessels subject to the provisions of the act of May 10, 1956, the term "passenger" means every person carried on board a vessel other than:

(1) The owner or his representative;

(2) The master and the bona fide members of the crew engaged in the business of the vessel who have contributed no consideration for their carriage and who are paid for their services;

(3) Any employee of the owner of the vessel engaged in the business of the owner, except when the vessel is operating under a bareboat charter;

(4) Any employee of the bareboat charterer of the vessel engaged in the business of the bareboat charterer;

(5) Any guest on board a vessel which is being used exclusively for pleasure purposes who has not contributed any consideration directly or indirectly, for his carriage; or,

(6) Any person on board a vessel documented and used for tugboat or towboat service of fifty gross tons or more who has not contributed any consideration, directly or indirectly, for his carriage.

§ 70.10-36 Pilot Boarding Equipment and Point of Access.

(a) "Pilot Boarding Equipment" means a pilot ladder, accommodation ladder, pilot hoist, or combination of them as required by this subchapter.

(b) "Point of Access" means the place on deck of a vessel where a person steps onto or off of pilot boarding equipment.

[CGD 79-032, 49 FR 25455, June 21, 1984]

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§ 70.10-39 Rivers.

Under this designation shall be included all vessels whose navigation is restricted to rivers and/or canals exclusively, and to such other waters as may be so designated by the Coast Guard District Commanders.

§ 70.10-41 Recognized classification society.

The term "recognized classification society" means the American Bureau of Shipping or other classification society recognized by the Commandant.

§ 70.10-42 Sailing vessel.

This term means a vessel with no mechanical means of propulsion, all propulsive power being provided by sails.

§ 70.10-43 Short international voyage.

For the purpose of this subchapter, the expression "short international voyage" means an international voyage in the course of which a vessel is not more than 200 miles from a port or place in which the passengers and crew could be placed in safety, and which does not exceed 600 miles in length between the last port of call in the country in which the voyage begins and the final port of destination.

§ 70.10-44 Specially suitable for vehicles.

A space which is "specially suitable for vehicles" is one designed for the carriage of automobiles or other self-propelled vehicles with batteries connected and fuel tanks containing gasoline on vessels on ocean or unlimited coastwise voyages. Requirements for the design and protection of spaces "specially suitable for vehicles" appear in subparts 72.15, 76.15, 77.05, 78.45, 78.47, and 78.83 of this subchapter. In addition, preparation of automobiles prior to carriage, with the exception of disconnecting battery cables, must be in accordance with the applicable provisions of 49 CFR 176.905.

[CGFR 66-33, 31 FR 15281, Dec. 6, 1966 as amended by CGD 86-033, 53 FR 38024, Sept. 16, 1988]

§ 70.10-45 Vessel.

Where the word "vessel" is used in this subchapter, it shall be considered to include all vessels indicated in Column 4 of Table 70.05-1(a), which are of more than 65 feet in length measured from end to end over the deck excluding sheer, except as otherwise noted in this subpart.

Subpart 70.15—Equivalents

§ 70.15-1 Conditions under which equivalents may be used.

(a) Where in this subchapter it is provided that a particular fitting, material, appliance, apparatus, or equipment, or type thereof, shall be fitted or carried in a vessel, or that any particular provision shall be made or arrangement shall be adopted, the Commandant may accept in substitution therefor any other fitting, material, apparatus, or equipment, or type thereof, or any other provision or arrangement: *Provided*, That he shall have been satisfied by suitable trials that the fitting, material, appliance, apparatus, or equipment, or type thereof, or the provision or arrangement shall be at least as effective as that specified in this subchapter.

(b) In any case where it is shown to the satisfaction of the Commandant that the use of any particular equipment, apparatus, or arrangement not specifically required by law is unreasonable or impracticable, the Commandant may permit the use of alternate equipment, apparatus, or arrangement to such an extent and upon such conditions as will insure, to his satisfaction, a degree of safety consistent with the minimum standards set forth in this subchapter.

Subpart 70.20—General Marine Engineering Requirements

§ 70.20-1 Marine engineering details.

All marine engineering details such as piping, valves, fittings, boilers, pressure vessels, etc., and their appurtenances installed on the vessel, shall be designed, constructed, and installed in accordance with the provisions of Sub-

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chapter F (Marine Engineering) of this chapter.

Subpart 70.25—General Electrical Engineering Requirements

§ 70.25-1 Electrical engineering details.

All electrical engineering details and installations shall be designed and installed in accordance with subchapter J (Electrical Engineering) of this chapter.

Subpart 70.30—Special Provisions

§ 70.30-1 Vessels acquired or documented under the Act of August 9, 1954.

(a) Vessels acquired or documented under the act of August 9, 1954 (sec. 3, 68 Stat. 675; 50 U.S.C. 198), shall be subject to the applicable provisions of title 52 of the Revised Statutes, acts amendatory thereof or supplemental thereto and the rules and regulations thereunder.

(b) Unapproved lifesaving, firefighting, and other equipment may be continued in service as long as, in the opinion of the Officer in Charge, Marine Inspection, such equipment is in good and serviceable condition. All replacements shall be in accordance with Coast Guard requirements.

§ 70.30-5 Installations of equipment made during the unlimited national emergency declared by the President on May 27, 1941.

(a) Boilers, pressure vessels, machinery, piping, electrical, and other installations, including lifesaving, firefighting, and other safety equipment, installed on vessels during the Unlimited National Emergency declared by the President on May 27, 1941, and prior to the determination of title V of the Second War Powers Act, as extended (sec. 501, 56 Stat. 180, 50 U.S.C. App. 635), which do not fully meet the detailed requirements of the regulations in this chapter, may be continued in service if found to be satisfactory by the Commandant for the purpose intended.

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Subpart 70.35—American Bureau of Shipping's Standards

§ 70.35-1 Standards to be used.

(a) Where in this subchapter an item, or method of construction, or testing is required to meet the standards established by the American Bureau of Shipping, the current standards in effect at the time of construction of the vessel, or otherwise as applicable, shall be used. The current standards of other recognized classification societies may also be accepted upon approval by the Commandant.

§ 70.35-5 Where obtainable.

(a) The standards established by the American Bureau of Shipping are usually published annually and may be purchased from the American Bureau of Shipping, 45 Eisenhower Drive, Paramus, NJ 07653-0910. These standards may be also examined at the office of the Commandant (M), U.S. Coast Guard, Washington, DC 20593-0001, or at the office of any Coast Guard District Commander or Officer in Charge, Marine Inspection.

[CGFR 65-50, 30 FR 16890, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5715, Apr. 12, 1968; CGD 88-070, 53 FR 34534, Sep. 7, 1988; CGD 88-070, 53 FR 37570, Sept. 27, 1988, 53 FR 44011, Nov. 1, 1988]

PART 71—INSPECTION AND CERTIFICATION

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AUTHORITY: 33 U.S.C. 1321(j); 46 U.S.C. 2113, 3306; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; E.O. 11735, 38 FR 21243, 3 CFR, 1971-1975 Comp., p. 793; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16895, Dec. 30, 1965, unless otherwise noted.

Subpart 71.01—Certificate of Inspection

§ 71.01-1 When required.

(a) Except as noted in this subpart or subpart 71.05, no vessel subject to inspection and certification shall be operated without a valid certificate of inspection.

§ 71.01-5 Posting.

The certificate of inspection shall be displayed under glass in a conspicuous place where observation by the passengers is likely.

[CGD 72-104R, 37 FR 14233, July 18, 1972]

§ 71.01-10 Period of validity.

(a) Certificates of inspection will be issued for a period of 1 year, except for those vessels subject only to the Act of May 10, 1956 (46 U.S.C. 390-390g), when the certificates will be issued for a period of 3 years. Application may be made by the master, owner, or agent for inspection and issuance of a new certificate of inspection at any time within the period of validity of the current certificate. For nuclear vessels see also § 79.10-1 of this subchapter.

(b) Certificates of inspection may be revoked or suspended by the Coast Guard where such process is authorized by law. This may occur if the vessel does not meet the requirements of law or regulations in this chapter or if there is a failure to maintain the safety requirements requisite to the issuance of a certificate of inspection.

[CGFR 68-82, 33 FR 18899, Dec. 18, 1968]

§ 71.01-15 Temporary certificate.

(a) If necessary to prevent delay of the vessel, a temporary certificate of inspection, Form CG-854, shall be issued pending the issuance and delivery of the regular certificate of inspection. Such temporary certificate shall be carried in the same manner as the

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regular certificate and shall in all ways be considered the same as the regular certificate of inspection which it represents.

§ 71.01-20 Expired certificate.

(a) Nothing in this subpart shall prevent a vessel upon a regularly established line from a port in the United States to a port of a foreign country not contiguous to the United States whose certificate of inspection expires at sea or while said vessel is in a foreign port or a port of Hawaii from lawfully completing her voyage without the valid certificate of inspection or temporary certificate required by this subpart: *Provided*, That the voyage shall be completed within 30 days after the expiration of the certificate of inspection. No such vessel shall depart if its certificate of inspection will expire within 15 days of the date of sailing.

Subpart 71.05—Permit To Proceed to Another Port for Repair

§ 71.05-1 When issued.

(a) The Officer in Charge, Marine Inspection, may issue a permit to proceed to another port for repair, Form CG-948, to a vessel, if in his judgment it can be done with safety, even if the certificate of inspection of the vessel has expired or is about to expire.

§ 71.05-5 To whom issued.

(a) Such permit will only be issued upon the written application of the master, owner, or agent of the vessel.

§ 71.05-10 Conditions of permit.

(a) The permit will state upon its face the conditions under which it is issued and whether or not the vessel is permitted to carry freight or passengers. Passengers may not be carried if the certificate of inspection has expired, except as provided under § 71.01-20.

§ 71.05-15 Posting.

(a) The permit shall be carried in a manner similar to that described in § 71.01-5 for a certificate of inspection.

Subpart 71.10—Permit To Engage in Excursions**§ 71.10-1 When issued.**

(a) The Officer in Charge, Marine Inspection, may issue a permit to carry additional passengers on an excursion, Form CG-949, if after personally inspecting the vessel, it can, in his judgment, be done with safety.

§ 71.10-5 To whom issued.

(a) Such permit will only be issued upon the written application of the master, owner, or agent of the vessel.

§ 71.10-10 Conditions of permit.

(a) The permit will state upon its face the conditions under which it is issued, the number of extra passengers the vessel may carry, any additional lifesaving or safety equipment which will be required, the route for which the permit is granted, and the dates on which the permit will be valid.

§ 71.10-15 Posting.

(a) The permit when used, shall be carried in addition to the certificate of inspection and shall be carried in a manner similar to that described in § 71.01-5 for a certificate of inspection.

Subpart 71.15—Inspection of Vessels**§ 71.15-1 Standards in inspection of hulls, boilers, and machinery.**

(a) In the inspection of hulls, boilers, and machinery of vessels, the standards established by the American Bureau of Shipping, see subpart 70.35 of this subchapter respecting material and inspection of hulls, boilers, and machinery, and the certificate of classification referring thereto, except where otherwise provided for by the rules and regulations in this subchapter, subchapter E (Load Lines), subchapter F (Marine Engineering), or subchapter J (Electrical Engineering) of this chapter, shall be accepted as standard by the inspectors.

Subpart 71.20—Initial Inspection**§ 71.20-1 Prerequisite of certificate of inspection.**

(a) The initial inspection is a prerequisite of the issuance of the original certificate of inspection.

§ 71.20-5 When made.

(a) The original inspection will only be made upon the written application of the owner or builder of the vessel to the Officer in Charge, Marine Inspection, on Form CG-3752, application for inspection of U.S. vessel, at or nearest the port where the vessel is located.

§ 71.20-10 Plans.

(a) Before application for inspection is made and before construction is started, the owner or builder shall have plans indicating the proposed arrangement and construction of the vessel approved by the Commandant. The procedure for submitting plans and the list of plans to be supplied is set forth in subpart 71.65.

§ 71.20-15 Scope of inspections.

(a) The initial inspection, which may consist of a series of inspections during the construction of a vessel, shall include a complete inspection of the structure, including the outside of the vessel's bottom, the machinery, unfired pressure vessels, equipment and the inside and outside of the boilers. The inspection shall be such as to insure that the arrangements, material, and scantlings of the structure, boilers and other pressure vessels and their appurtenances, piping, main and auxiliary machinery, electrical installations, lifesaving appliances, fire-detecting and extinguishing equipment, pilot boarding equipment, pollution prevention equipment and other equipment fully comply with the applicable regulations for such vessel and are in accordance with approved plans, and determine that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if any. The inspection shall be such as to ensure that the workmanship of all parts of the vessel and its equipment is in all respects satisfactory and that the vessel is provid-

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ed with lights, means of making sound signals, and distress signals as required by applicable statutes and regulations.

(b) For nuclear vessels, the inspections required by this section shall be made except insofar as they may be limited by the presence of radiation. In addition, the inspection shall include any special preoperational tests and inspections prescribed by the Atomic Energy Commission in its operating license, by the nuclear plant operating procedures, or by the vessel's Safety Assessment. See part 79 of this subchapter.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5715, Apr. 12, 1968; CGFR 68-82, 33 FR 18899, Dec. 18, 1968; CGD 71-161R, 37 FR 28262, Dec. 21, 1972; CGD 82-036, 48 FR 654, Jan. 6, 1983; CGD 79-032, 49 FR 25455, June 21, 1984]

§ 71.20-20 Specific tests and inspections.

(a) The applicable tests and inspections relating to annual inspection as set forth in subpart 71.25 shall be made at this time. In addition, the following specific tests and inspections shall be made by the inspector:

(1) Installation of lifeboats, davits, and winches, see subpart 75.35 of this subchapter.

(2) Installation of carbon dioxide extinguishing piping, see § 76.15-15 of this subchapter.

(3) For inspection procedures of marine engineering equipment and systems, see Subchapter F (Marine Engineering) of this chapter.

(4) For inspection procedures of electrical engineering equipment and systems, see subchapter J (Electrical Engineering) of this chapter.

(5) For inspection and testing standards of structural subdivision integrity, see § 72.01-25 of this subchapter.

(6) For inspection and testing of watertight doors, see § 170.270 of this chapter.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 79-023, 48 FR 51007, Nov. 4, 1983]

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Subpart 71.25—Annual inspection

§ 71.25-1 Prerequisite of reissuance of certificate of inspection.

(a) The annual inspection is a prerequisite of the reissuance of a certificate of inspection.

§ 71.25-5 When made.

(a) The annual inspection will be made only upon the written application of the master, owner, or agent of the vessel on Form CG-3752, Application for Inspection of U.S. Vessel, to the Officer in Charge, Marine Inspection, at or nearest the port where the vessel is to be inspected.

§ 71.25-10 Scope of inspections.

(a) The annual inspection shall include an inspection of the structure, boilers, and other pressure vessels, machinery and equipment. The inspection shall be such as to insure that the vessel, as regards the structure, boilers and other pressure vessels, and their appurtenances, piping, main and auxiliary machinery, electrical installations, life-saving appliances, fire-detecting and extinguishing equipment, pilot boarding equipment, and other equipment is in satisfactory condition and fit for the service for which it is intended, and that it complies with the applicable regulations for such vessels, and determine that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if required. The lights, means of making sound signals, and distress signals carried by the vessel shall also be subject to the above-mentioned inspection for the purpose of ensuring that they comply with the requirements of the applicable statutes and regulations.

(b) For nuclear vessels, the inspections required by this section shall be made except insofar as they may be limited by the presence of radiation. See also subpart 79.10 of this subchapter.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5715, Apr. 12, 1968; CGFR 68-82, 33 FR 18899, Dec. 18, 1968; CGD 82-036, 48 FR 655, Jan. 6, 1983; CGD 79-032, 49 FR 25455, June 21, 1984]

§ 71.25-15 Lifesaving equipment.

(a) At each annual inspection, the inspector shall conduct the following tests and inspections of lifesaving equipment:

(1) It shall be demonstrated that the air tanks of all lifesaving appliances are airtight.

(2) Each lifeboat shall be lowered to near the water and then be loaded with its allowed capacity, evenly distributed throughout the length and then be lowered into the water until it is afloat and be released from the falls: *Provided*, That lifeboats on river ferryboats and on river vessels shall be lowered to the water and afloat before loading. In making this test persons or deadweight may be used. The total weight used shall be at least equal to the allowed capacity of the lifeboat, considering persons to weigh 165 pounds each.

(3) Each life preserver or wood float shall be examined to determine its serviceability. If found to be satisfactory, it will be stamped "Passed," together with the date, the port, and the inspector's initials. If not in a serviceable condition, the life preserver or wood float shall be removed from the vessel. If the life preserver is beyond repair, it shall be destroyed in the presence of the inspector.

(4) All lifeboat winch electrical control apparatus shall be opened up and inspected.

(5) Where gravity davits are installed, it shall be demonstrated that each lifeboat can be swung out and lowered from any stopped position by merely releasing the brake on the lifeboat winch. The use of force to start the davits or the lifeboat winch will not be permitted.

(6) Inflatable liferafts shall be serviced at an approved servicing facility in accordance with subpart 160.051 of subchapter Q (Specifications) of this chapter. Inflatable liferafts shall be serviced at an approved servicing facility every 12 months or not later than the next vessel inspection for certification provided the total time since date of last servicing does not exceed 15 months. The period for servicing is computed from date of last servicing. Except in emergencies no servicing should be done aboard vessels. If at

any time external damage is found to the container or straps or if the seal is broken, the Officer in Charge, Marine Inspection, shall be notified and the raft shall be serviced by an approved servicing facility.

NOTE: After the raft has been satisfactorily serviced in the presence of a marine inspector at an approved servicing facility, the raft is repacked and sealed and the carrying case stamped "PASSED" together with the date, port, and the inspector's initials.

(7) Where launching devices for inflatable liferafts are installed, the launching device shall be proof tested with a weight equal to the raft and its full complement of persons and equipment.

(8) All other items of lifesaving equipment shall be examined to determine that they are in suitable condition.

(9) A hydraulic release used in the installation of any liferaft, inflatable liferaft, lifefloat, or buoyant apparatus shall undergo the periodic servicing and testing required by subpart 160.062 of subchapter Q (Specifications) of this chapter every 12 months which may be extended to 15 months as determined by the date shown on its inspection tag. The springs of a spring-tensioned gripe used in such an installation shall be renewed when the accompanying hydraulic release is serviced and tested.

(b) At each inspection for certification, and more often if necessary, a marine inspector inspects each exposure suit to determine its serviceability. Each exposure suit found not to be in a serviceable condition must be removed from the vessel.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5715, Apr. 12, 1968; CGD 76-033a, 45 FR 24478, Apr. 10, 1980]

§ 71.25-20 Fire-detecting and extinguishing equipment.

(a) At each annual inspection, the inspector shall conduct the following tests and inspections of fire detecting and extinguishing equipment:

(1) All hand portable fire extinguishers and semiportable fire extinguishing systems shall be checked as noted in Table 71.25-20(a)(1). In addition,

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the hand portable fire extinguishers and semiportable fire extinguishing systems shall be examined for excessive corrosion and general condition.

TABLE 71.25-20(a)(1)

Type unit	Test
Soda acid	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Foam	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge.
Pump tank (water or antifreeze).	Discharge. Clean hose and inside of extinguisher thoroughly. Recharge with clean water or antifreeze.
Cartridge operated (water, antifreeze or loaded stream).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Remove liquid. Clean hose and inside of extinguisher thoroughly. Recharge with clean water, solution or antifreeze. Insert charged cartridge.
Carbon Dioxide	Weigh cylinders. Recharge if weight loss exceed 10 percent of weight of charge. Inspect hose and nozzle to be sure they are clear. ¹
Dry chemical (cartridge-operated type).	Examine pressure cartridge and replace if end is punctured or if cartridge is otherwise determined to have leaked or to be in unsuitable condition. Inspect hose and nozzle to see they are clear. Insert charged cartridge. Be sure dry chemical is free-flowing (not caked) and chamber contains full charge.
Dry chemical (stored pressure type).	See that pressure gage is in operating range. If not, or if seal is broken, weigh or otherwise determine that full charge of dry chemical is in extinguisher. Recharge if pressure is low or if dry chemical is needed.
Vaporizing liquid ² (pump type).	Pump a few strokes into clean pail and replace liquid. Keep water out of extinguisher or liquid. Keep extinguisher completely full of liquid.
Vaporizing liquid (stored pressure type).	See that pressure gage is in operating range. Weigh or check liquid level to determine that full charge of liquid is in extinguisher. Recharge if pressure is low or if liquid is needed.

¹ Cylinders must be tested and marked, and all flexible connections and discharge hoses of semi-portable carbon dioxide and halon extinguishers must be tested or renewed, as required by §§ 147.60 and 147.65 of this chapter.

² Vaporizing-liquid type fire extinguishers containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids shall be removed from all vessels. (See § 76.50-5(e) of this subchapter.)

(2) Fixed fire extinguishing systems shall be checked as noted in Table

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71.25-20(a)(2). In addition all parts of the fixed fire extinguishing systems shall be examined for excessive corrosion and general conditions.

TABLE 71.25-20(a)(2)

Type system	Test
Foam	Systems utilizing a soda solution shall have such solution replaced. In all cases, ascertain that powder is not caked.
Carbon dioxide	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge. ¹

¹ Cylinders must be tested and marked, and all flexible connections on fixed carbon dioxide systems must be tested or renewed, as required by §§ 147.60 and 147.65 of this chapter.

(3) All fire detecting and extinguishing systems, all piping controls, valves, and alarms shall be checked to ascertain that the system is in operating condition. In this respect, automatic sprinkling systems shall be checked by means of test stations or opening heads, smoke detecting systems shall be checked by introducing smoke into the accumulators, fire detecting and manual alarm systems shall be checked by test stations or actuating detectors or pull boxes, and steam smothering lines shall be checked with at least a 50 p.s.i. air pressure with the ends capped or by blowing steam through the lines at the designed pressure.

(4) The fire main system shall be operated and the pressure checked at the most remote and highest outlets. All fire hose shall be subjected to a test pressure equivalent to the maximum pressure to which they may be subjected in service, but not less than 100 p.s.i.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5716, Apr. 12, 1968; CGD 84-044, 53 FR 7748, Mar. 10, 1988]

§ 71.25-25 Hull equipment.

(a) At each annual inspection, the inspector shall conduct the following tests and inspections of hull equipment:

(1) All subdivision bulkheads shall be examined to determine that their watertight integrity has not been impaired.

(2) All watertight doors shall be operated locally by manual power and also by hydraulic or electric power if so fitted. Where remote control is fitted, the doors shall also be operated by the remote control apparatus.

(3) All magnetically controlled fire doors shall be operated locally and by the remote control, and all automatic fire dampers shall be checked to determine that they are in an operable condition.

(4) The remote controls of all valves shall be operated.

(5) An inspection of the cargo gear shall be required. The inspection may consist of tests and examinations to determine the condition and suitability of the cargo gear. Current valid certificates and registers of cargo gear issued by nonprofit organizations or associations approved by the Commandant, may be accepted as prima facie evidence of the condition and suitability of the cargo gear. Cargo gear certificates and registers will not be issued by the Coast Guard.

(b) Every acceptable cargo gear certificate and/or register shall be properly executed by a person authorized to do so and shall:

(1) Certify as to the tests and examinations conducted;

(2) Show the dates on which the tests and examinations were conducted; and,

(3) Indicate that the cargo gear therein described complies with standards equal to or exceeding those set forth in subpart 71.47.

(c) Competent persons for the purposes of this section and subpart 71.47 are:

(1) Coast Guard marine inspectors;

(2) Surveyors of the organizations or associations approved by the Commandant;

(3) Such other persons as are authorized by the regulations in subpart 71.47 as may be required; and,

(4) Responsible officials or employees of the testing laboratories, companies, or organizations who conduct tests of pieces of loose cargo gear, wire rope, or the annealing of gear as may be required.

(d) The registers issued in connection with cargo gear certification must have all required entries fully completed

as of the dates indicated, shall be kept current, and shall include the following:

(1) A register of the cargo handling machinery and the gear accessory thereto carried on the vessel named therein;

(2) Certification of the testing and examination of winches, derricks, and their accessory gear;

(3) Certification of the testing and examination of cranes, hoists, and their accessory gear;

(4) Certification of the testing and examination of chains, rings, hooks, shackles, swivels, and blocks;

(5) Certification of the testing and examination of wire rope;

(6) Certification of the heat treatment of chains, rings, hooks, shackles, and swivels which require such treatment; and,

(7) Certification of the annual thorough examinations of gear not required to be periodically heat treated.

(e) It is the responsibility of the master to have a ship's officer inspect cargo gear when required by subpart 71.47. For those inspected vessels which do not have valid cargo gear certificates and registers as provided by this section, such vessels will be required to have their shipboard cargo gear undergo tests and examinations in accordance with the provisions of Subpart 71.47.

§ 71.25-30 [Reserved]

§ 71.25-35 Marine engineering equipment.

(a) For inspection procedures of marine engineering equipment and systems, see subchapter F. (Marine Engineering) of this chapter.

§ 71.25-37 Pollution prevention.

At each inspection for certification, the inspector shall examine the vessel to determine that it meets the vessel design and equipment requirements for pollution prevention in 33 CFR part 155, subpart B.

[CGD 71-161R, 37 FR 28262, Dec. 21, 1972]

§ 71.25-40 Sanitary inspection.

(a) At each annual inspection the passenger and crew quarters, toilet and washing spaces, galleys, serving

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pantries, lockers, etc., shall be examined by the inspector to be assured that they are in a sanitary condition.

§ 71.25-45 Fire hazards.

(a) At each annual inspection, the inspector shall examine the tank tops and bilges in the machinery spaces to see that there is no accumulation of oil which might create a fire hazard.

§ 71.25-50 Inspector not limited.

(a) Nothing in this subpart shall be construed as limiting the inspector from making such tests or inspections as he deems necessary to be assured of the safety and seaworthiness of the vessel.

Subpart 71.30—Reinspection

§ 71.30-1 When made.

(a) In general, at least three reinspections shall be made on each vessel within one year. These reinspections will be made at approximately equal intervals between annual inspections. In the case of vessels with a seasonal schedule, reinspections will be made during the operating season if practicable.

(b) For those vessels subject only to the act of May 10, 1956 (46 U.S.C. 390-390g), reinspections will be made annually between inspections for certification.

§ 71.30-5 Scope.

(a) The inspector shall examine all accessible parts of the vessel's hull, machinery, and equipment to be assured that it is in a satisfactory condition.

(b) In general, the scope of the reinspection shall be the same as for the annual inspection, but will be in less detail unless it is determined that major change has occurred since the last annual inspection.

§ 71.30-10 Inspector not limited.

(a) Nothing in this subpart shall be construed as limiting the inspector from making such tests or inspections as he deems necessary to be assured of the safety and seaworthiness of the vessel.

Subpart 71.40—Inspection After Accident

§ 71.40-1 General or partial survey.

(a) A survey, either general or partial, according to the circumstances, shall be made every time an accident occurs or a defect is discovered which affects the safety of the vessel or the efficacy or completeness of its lifesaving appliances, fire-fighting or other equipment, or whenever any important repairs or renewals are made. The survey shall be such as to insure that the necessary repairs or renewals have been effectively made, that the material and the workmanship of such repairs or renewals are in all respects satisfactory, and that the vessel complies in all respects with the regulations in this subchapter.

Subpart 71.45—Sanitary Inspections

§ 71.45-1 When made.

(a) An inspection of passenger and crew quarters, toilet and washing spaces, serving pantries, galleys, etc., shall be made, in general, at least once in every month. If the route of the vessel is such that it is away from a United States port for more than one month, an inspection shall be conducted at least once every trip.

Subpart 71.47—Inspection of Cargo Gear

§ 71.47-1 When made.

(a) The specific tests and examinations shall be made at the intervals stated in the regulations in this subpart.

(b) A thorough examination of the assembled gear shall be made at least once in every year.

(c) An inspection to determine the condition and suitability of shipboard cargo gear will be made by a marine inspector at each inspection for certification. Inspections may be made at such other times as considered necessary by the Officer in Charge, Marine Inspection.

(d) For vessels fitted with cargo gear, an initial test of the assembled units under proof loads shall be con-

ducted, followed by a complete dismantling or disassembling of such gear and a thorough examination of the parts to ascertain its condition. Subsequent tests of the assembled units under proof loads, followed by a dismantling or disassembling of such gear and a thorough examination shall be made once every five years, or oftener if necessary.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 87-089, 55 FR 21550, May 25, 1990]

§ 71.47-3 Definitions of terms and words used in this subpart.

(a) *Cargo gear.* The term "cargo gear" includes masts, stays, booms, winches, cranes, elevators, conveyors, standing and running gear forming that part of the shipboard cargo gear used in connection with the loading or unloading of a vessel. This term does not include material handling gear and rigging of special design vessels used solely in dredging, pile driving, drilling for mineral deposits, and construction work.

(b) *Dismantling or disassembling of gear.* The "dismantling" or "disassembling" of gear contemplated is the taking apart of units of gear to the extent necessary to determine the suitability of such gear for continued service and as may be specifically required to carry out the intent of a particular regulation in this subpart. After proof load tests the disassembling need not include the sheaves and pins of the blocks included in the test unless there appears to be evidence of deformation or failure.

(c) *Thorough examination.* The "thorough examination" contemplated is a visual examination, supplemented if necessary by other means such as by a hammer test or by a test with electronic or ultrasonic devices.

(d) *Ton.* The word "ton" means a ton of 2,240 pounds.

(e) *Safe working load.* The "safe working load" (SWL) contemplated is the load the gear is approved to lift, excluding the weight of the gear itself.

§ 71.47-5 Tests and examinations of shipboard cargo gear.

(a) For vessels fitted with cargo gear and without valid cargo gear certi-

icates and registers issued by organizations or associations, recognized by the Coast Guard, inspections shall be made by those competent persons described in § 71.25-25(c)(1) and (2), to determine the condition and suitability of the shipboard cargo gear. For the initial and subsequent fifth year inspections, all the cranes, winches, hoists, derrick booms, derrick and mast bands, and all parts using in loading or unloading cargo shall be assembled in units and such assembled units shall then be tested under proof loads. The proof loads shall be handled for various types of units as required by specific regulations in this subpart. After the proof load tests of the assembled units of gear have been made, such gear shall be disassembled or dismantled so as to permit them to be thoroughly examined. The sheaves and pins of the blocks included in these proof load tests need not be removed unless there appears to be evidence of deformation or failure.

(b) For vessels fitted with cargo gear and holding valid cargo gear certificates and registers issued by organizations or associations recognized by the Coast Guard, the marine inspectors may accept such certificates as prima facie evidence of compliance with the requirements in this subpart. If an Officer in Charge, Marine Inspection, is in doubt as to the condition and suitability of shipboard cargo gear for such a vessel, the tests and examinations, or such portions thereof as deemed necessary, provided for in this subpart will be required.

(c) If any part or portion of the gear fails or becomes defective during such tests, such defective equipment shall be satisfactorily repaired or replaced.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 87-089, 55 FR 21550, Aug. 8, 1990]

§ 71.47-10 Cargo gear of special design and limited use.

(a) The regulations in this subpart shall apply to cargo gear of special design and limited use (derrick barges rigged for heavy lifts, cargo booms on self unloaders, etc.) only to the extent that it is practicable to do so. These requirements may be modified by the

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Officer in Charge, Marine Inspection, where the inspection is performed, according to the design characteristics of such cargo gear.

(b) Nondestructive tests, such as radiography, ultrasonic, electronic or other methods, may be utilized to determine the condition of heavy lift gear after it has been unit tested, provided such methods are acceptable to the Officer in Charge, Marine Inspection, having cognizance of the tests. However, no deviations or modifications shall be permitted to lessen the requirements for cargo gear inspection as set forth in § 71.47-70 and the maintenance of the applicable cargo gear records as set forth in § 71.47-75.

§ 71.47-15 Cargo gear plans required when plans are not approved by a classification society or recognized cargo gear organization.

(a) For a new vessel or a vessel applying for initial inspection, the following plans of cargo gear shall be submitted in triplicate to the Officer in Charge, Marine Inspection, having jurisdiction for approval:

- (1) Plans showing a stress diagram with the principal details of the gear.
- (2) Plans containing a diagram showing the arrangement of the assembled gear and indicating the safe working load for each component part.

(b) The safe working load on which the design of any component part of the cargo gear is to be based, shall be taken as the maximum resultant load upon the component part in the design conditions assumed. The safe working load of the assembly is the load the gear is approved to lift, excluding the weight of the gear itself.

(c) One approved copy of each set of cargo gear plans shall be retained on the vessel.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGFR 68-105, 33 FR 14703, Oct. 2, 1968]

§ 71.47-20 Cargo gear plans approved by a classification society.

(a) The plans required by § 71.47-15 (a) need not be submitted to the Officer in Charge, Marine Inspection, for approval if such plans are or have been approved by the American Bureau of Shipping or similar classification

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society recognized by the Commandant.

(b) One approved copy of each set of cargo gear plans shall be retained on the vessel.

§ 71.47-23 Cargo gear plans approved by a recognized cargo gear organization.

(a) The plans required by § 71.47-15(a) need not be submitted to the Officer in Charge, Marine Inspection, for approval if such plans are or have been approved by a recognized cargo gear organization listed in paragraph (b) of this section.

(b) The following cargo gear organizations are recognized as having the technical competence to handle the required review of cargo gear plans, including stress and arrangement diagrams, and this recognition will continue in effect until suspended, canceled, or modified by proper authority:

(1) International Cargo Gear Bureau, Inc., with home office at 17 Battery Place, New York, N.Y. 1004.

(c) One approved copy of each set of cargo gear plans shall be retained on the vessel.

[CGFR 68-105, 33 FR 14703, Oct. 2, 1968, as amended by CGFR 69-118, 35 FR 6860, Apr. 30, 1970]

§ 71.47-25 Factors of safety.

(a) Except as provided in paragraph (b) of this section, in the design of cargo gear, the minimal safety factors in Table 71.47-25(a) must be used to meet the requirements of § 71.47-15.

TABLE 71-47.25(a)

Safe working loads for component parts	Safety factors based on ¹		
	Ultimate strength	Yield point	Breaking test load
All metal structural parts except steel booms, stayed masts, pins, and connections:			
5 tons or less working load of the assembled gear.....	5.00	¹ 2.75	
15 tons working load of the assembled gear.....	4.00	¹ 2.20	
60 tons or more working load of the assembled gear.....	3.75	¹ 2.05	
Steel booms:			
10 tons or less working load of the assembled gear.....		3.00	
13 tons or more working load of the assembled gear.....		2.50	

TABLE 71.47-25(a)—Continued

Safe working loads for component parts	Safety factors based on ¹		
	Ultimate strength	Yield point	Breaking test load
Stayed masts:			
10 tons or less working load of assembled gear.....	5.00		
13 tons or more working load of assembled gear.....	4.00		
Pins and connections:			
10 tons or less working load of assembled gear.....		² 3.00	
13 tons or more working load of assembled gear.....		² 2.50	
Wire rope:			
10 tons or less working load.....			5.00
13 tons or more working load.....			4.00
Fiber rope:			
For running rigging.....	7.00		
For fixed gear and vangs.....	5.00		
Wooden structural parts.....	8.00		
Chains.....	4.50		

¹ Intermediate values of safety factors may be used.
² The minimum yield point for design purposes shall not be considered greater than 72 percent of the minimum ultimate strength of the steel.

(b) The Commandant may permit the use of safety factors different than those in Table 71.47-25(a) in the design of cargo gear that he considers special.

[CGD 72-150R, 37 FR 20826, Oct. 4, 1972]

§ 71.47-30 Loose gear certificates and tests.

(a)(1) Evidence of compliance with the proof load test requirements in this section for all chains, rings, hooks, links, shackles, swivels, blocks, and any other loose gear whether accessory to a machine or not, but which is used as ship's cargo gear, shall be listed on an appropriate certificate.

(2) This evidence of test and the recording thereof is required only once with respect to each article of gear so long as each article is identified and the certificates required are available on the vessel.

(3) Proof loads applied to the articles of loose gear shall be as shown in Table 71.47-30(a)(3).

TABLE 71.47-30(a)(3)

Article of gear	Proof load
Chains, rings, hooks, links, shackles, swivels.	Twice the safe working load.

TABLE 71.47-30(a)(3)—Continued

Article of gear	Proof load
Single sheave block.....	Four times the safe working load. ¹
Multiple sheave block with safe working load up to and including 20 tons ¹ .	Twice the safe working load.
Multiple sheave block with safe working load over 20 tons up to and including 40 tons.	20 tons in excess of the safe working load.
Multiple sheave block over 40 tons.	One and a half times the safe working load.
Roller chains (pitched chains) used with hand operated chain falls, and rings, hooks, shackles, or swivels permanently attached thereto.	Do.
Chain fall blocks used with roller chains (pitched chains), and rings, hooks, shackles, or swivels permanently attached thereto.	Do.

¹ The proof load applied to the block is equivalent to twice the maximum resultant load on the eye or pin when lifting the safe working load attached to a rope which passes around the sheave of the block. The proof load is, therefore, equal to four times the safe working load or twice the safe working load when the load is attached directly to the block instead of a rope passing around the sheave.

(b) All chains, rings, hooks, links, shackles, swivels, blocks, and any other loose gear whether accessory to a machine or not, but which is used or intended for use as ship's cargo gear, shall bear a mark or number by which each piece can be identified and shall be listed on a loose gear certificate. The safe working load "SWL" shall be marked on all blocks.

(c) The loose gear certificate shall show the distinguishing number or mark applied to the article of gear; a description of the article of gear; the date when the test proof load was applied; and the safe working load. The forms for loose gear certificates shall be as prescribed by and acceptable to associations or organizations approved by the Commandant and shall be suitable for the purposes of this section.

(d) After being tested all of the gear shall be examined to ascertain whether any part has been damaged, permanently deformed by the test or has other visible defects. The pins and sheaves of all tested blocks shall be removed for this purpose. If damaged during these tests, such gear shall be satisfactorily repaired or replaced.

(e) The required examinations as set forth in paragraph (d) of this section may be accomplished by mechanical,

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electrical, or other means provided the method employed is equal in efficiency to the visual examination of disassembled gear.

§ 71.47-35 Test and certification of wire rope.

(a) All wire rope used as shipboard cargo gear shall be able to withstand a breaking test load of at least five times the safe working load. In the case of gear with a lifting capacity of over 10 tons, the breaking test load of wire rope shall be at least four times the safe working load. All wire rope shall be identified and described in a wire rope certificate. Such certificate shall be furnished and attested to by the manufacturer or a testing agency and shall certify:

(1) The breaking test load of a sample of the wire rope, which should be at least five times the safe working load or at least four times the safe working load if part of gear with a lifting capacity of over 10 tons;

(2) The name and address of the manufacturer;

(3) The diameter of the rope in inches and/or fractions thereof;

(4) The number of strands and the number of wires in each strand;

(5) The quality of the wire (e.g. improved plow steel);

(6) The date of the test; and,

(7) The load at which the sample broke.

(b) The forms for the wire rope certificates shall be as prescribed by and acceptable to associations or organizations approved by the Commandant and shall be suitable for the purposes described in this section.

(c) In addition to the manufacturers' or testing agencies' attestations, a sample of the wire rope may be tested to destruction if required by the marine inspector when a visual inspection indicates an apparent defective condition.

§ 71.47-40 Proof test of cargo gear as a unit.

(a) Winches with their accessory gear, including the derricks and attachments, at least once in each five years, shall be tested as a unit with proof loads exceeding the safe working load as set forth in Table 71.47-40(a).

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TABLE 71.47-40(a)

Safe working load of assembled gear	Proof load
Not exceeding 20 tons	25 percent in excess.
Over 20 tons but not exceeding 50 tons	5 tons in excess.
Over 50 tons	10 percent in excess.

(b) The proof load applied to winches and their gear shall be lifted with the ship's normal tackle, including the winches, and with the boom at an angle which should not be greater than 15 degrees to the horizontal or to the lowest angle approved in association with the design, or when these angles are impracticable to the lowest practicable angle. When the load has been lifted, it shall be swung as far as possible in both directions.

(1) Where electrical winches are fitted with electromagnetic brakes, or where electrohydraulic winches are fitted with electromagnetic or hydraulic brakes at the winch, mechanical brakes for manual operations will not be required, but if so fitted shall be in satisfactory operating condition.

(2) Current for electric winch operation during the test shall be taken from the ship's circuits. Shore current may be used if it passes through the ship's switchboard.

(c) Cranes and other hoisting machines with their accessory gear, at least once in each five years, shall be tested with a proof load which shall exceed the safe working load as set forth in Table 71.47-40(a).

(d) The proof load applied to cranes and hoists shall be lifted, topped and swung (slewed) as far as possible in each direction. If the boom of the crane has a movable radius, it shall be tested with a proof load as set forth in this section at the maximum and minimum radii of the boom. In the case of hydraulic cranes whose capacity is limited by pressure, and with which it is not possible to lift a load 25 percent in excess of the safe working load, the greatest possible load in excess of the safe working load, shall be used. These tests and the amounts of the loads shall be recorded.

(e) After satisfactory completion of the proof load testing of the cargo gear in accordance with paragraphs

(a), (b), (c), and (d) of this section, the cargo gear and all component parts shall be given a thorough visual examination, supplemented as necessary by other means such as a hammer test or with electronic or ultrasonic devices, to determine if any of the parts were damaged, deformed, or otherwise rendered unsafe for further use. If found defective, such gear shall be replaced.

(1) When the test is being conducted for the first time on a vessel, accessory gear shall be dismantled or disassembled for examination after the test. The sheaves and pins of the blocks included in this test need not be removed unless there appears to be evidence of deformation or failure.

(2) For subsequent tests such parts of the machinery and gear shall be dismantled and/or disassembled after the test as necessary to determine its suitability for continued service.

(f) Appropriate means shall be provided to prevent the foot of the boom from being accidentally lifted from the socket during the test.

(g) Vessels whose cargo gear has been in use but are without the valid registers and certificates described in § 71.25-25 will be inspected for defective cargo gear. The gear shall then be tested and examined as prescribed in this section. If the movable weights for proof testing are not reasonably available, a spring or hydraulic scale certified for accuracy may be used. Whenever such scales are used, the proof load shall be applied with the boom swung out as far as possible in one direction and then in the other direction, and at such intermediate positions as may be indicated. At any position, the indicator of the scale must maintain a constant reading under the proof load for a period of five minutes.

(h) On all types of winches and cranes efficient means shall be provided to stop and hold the proof load in any position, and the efficiency of such means shall be demonstrated.

(1) Electric winches, electrohydraulic winches fitted with electromagnetic or hydraulic brakes at the winch, or cranes shall be equipped so that a failure of the electric power shall stop the motion and set the brakes without any action on the part of the operator.

(2) Current for electric winch and crane operations during the tests shall be taken from the ship's circuits. Shore current may be used if it passes through the ship's switchboard.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 87-089, 55 FR 21550, May 25, 1990]

§ 71.47-45 Marking of booms and cranes.

(a) The safe working load (abbreviated "SWL") for the assembled gear shall be marked on the heel of each boom with the minimum angle to the horizontal for which the gear is designed. These letters and figures shall be in contrasting colors to the background and at least one inch in height.

(b) Where booms are rated at varying capacities depending on the radii, tables indicating the maximum safe working loads for the various working angles of the boom and the maximum and minimum radii at which the boom may be safely used shall be conspicuously posted near the controls and visible to the operator when working the gear.

§ 71.47-50 Use of wire rope and chains.

(a) An eye splice made in any wire rope used as cargo gear, with or without a thimble, shall have at least three tucks with whole strands and two tucks with one half of the wire cut from the tucking strand: *Provided*, That this requirement shall not preclude the use of any other form of splice or connection if it is as efficient as the splice specified.

(b) Single wire rope cargo falls, wire rope pendants, topping lifts and preventers shall consist of clear lengths without splices except at the working ends. Wire rope clips shall not be used to form eyes in the working ends of single wire rope cargo falls.

(c) Wire rope shall not be used for shipboard cargo gear if in any length of 8 diameters, the number of broken wires exceeds ten percent of the total number of wires in the rope, or if the rope shows other signs of excessive wear, corrosion, kinking or defect.

(d) Hoisting or sling chains used for shipboard cargo gear shall not be used if a length of chain has been stretched more than five percent of the original

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length, or the chain has become unsafe through overloading or faulty heat treatment, or whenever other external defects are evident.

(e) Chains used for shipboard cargo gear shall not be shortened by knotting, bolting, or wiring the links. The use of chains having a knot or kink as shipboard cargo gear is prohibited.

§ 71.47-55 Annealing.

(a) Chains, hooks, rings, links, shackles, and swivels of wrought iron used as cargo gear shall be annealed at the following intervals:

(1) Wrought iron chains and gear in general use and of one half inch or less, once at least in every six months.

(2) All other wrought iron chains and gear, including topping lift chains, in general use, at least once in every twelve months.

(b) The annealing shall be done in a suitable closed oven and not over an open fire. Wrought iron shall be annealed at a temperature of between 1100° and 1200° Fahrenheit for a period of between 30 and 60 minutes. After being annealed, the article shall be allowed to cool slowly and shall be then tested completely for defects.

(c) Heat treatment of the cargo gear shall be done only by reputable firms having suitable equipment and personnel trained for this purpose. A certificate attesting to the annealing of all gear heat treated shall be furnished to the vessel.

(d) The heat treatment of chains, hooks, rings, links, shackles, and swivels of materials other than wrought iron used as cargo gear, if required, shall be effected in accordance with the manufacturer's instructions.

§ 71.47-60 Additions to gear.

(a) When articles of loose gear and/or wire rope conforming with the requirements in this subpart are added to installed gear, or used as replacements in such gear from time to time, a record shall be maintained on the vessel which shall identify each article and the certificate accompanying it.

§ 71.47-65 Alterations, renewals, or repairs of cargo gear.

(a) Whenever important repairs, renewals, or alterations are indicated or

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intended for the masts, booms, and permanent fittings of the cargo gear, such repairs, renewals, or alterations shall be undertaken only after compliance with the applicable provisions of § 71.55-1.

(b) Tests and examinations of the repairs, renewals, or alterations will be in accordance with the provisions of § 71.47-40.

(c) When welding is used to lengthen, alter, or repair chains, rings, hooks, links, shackles, or swivels, they shall be properly heat treated and shall before being again put into use, be tested and examined in accordance with the provisions of § 71.47-30.

§ 71.47-70 Responsibility of ship's officer for inspection of cargo gear.

(a) All wire rope, chains other than bridle chains attached to booms or masts, and all rings, hooks, links, shackles, swivels and blocks used in loading or unloading shall be visually inspected by a ship's officer designated for that purpose by the master.

(b) These inspections by a ship's officer shall be made at frequent intervals, and in any event not less than once in each month.

(c) Immediately after such an inspection by a ship's officer notations of such an inspection shall be made in record form which shall be in or kept with the cargo gear register if carried. In addition, the same notations of inspections together with the dates shall be entered in the Official Logbook for those vessels required to carry this record, or such information shall be kept with the log records maintained on vessels not required to carry the Official Logbook. (See § 71.47-75 for entries required to be kept.)

§ 71.47-75 Records regarding cargo gear.

(a) The cargo gear records described in this subpart shall be maintained on the vessel and shall be made available to Coast Guard officials upon request. These records shall be kept for the periods of time they are valid and, in addition, until the next Coast Guard inspection for certification of the vessel. The certificates of manufacturers and/or testing laboratories, companies, or organizations shall be main-

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tained on the vessel so long as the gear described in such certificates is on board the vessel.

(b) The records of all the inspections of cargo gear made by the ship's officers in accordance with § 71.47-70 shall be maintained on the vessel for periods of time which agree with those periods as covered by the current Coast Guard certificate of inspection issued to the vessel. These records shall show the dates of inspections, identify articles inspected, the conditions observed, and the name of the officer performing the inspection.

(c) The records of all tests and examinations conducted by or under the supervision of surveyors of the organizations or associations approved by the Commandant shall be maintained on the vessel.

(d) The Coast Guard will not issue cargo gear certificates and/or registers. The Coast Guard's records of inspections, tests, and examinations of a particular vessel's cargo gear made by a marine inspector or conducted under the supervision of the Coast Guard will be maintained in the office of the Officer in Charge, Marine Inspection, having jurisdiction over the vessel at the time such work was performed. The original certificates or certified copies of certificates of manufacturers and/or testing laboratories, companies, or organizations for loose cargo gear, wire rope, or the annealing of gear shall be maintained on the vessel.

§ 71.47-80 Advance notice that cargo gear testing is desired.

(a) The owner, agent, or master of a vessel shall give an advance notice when it is desired that the tests and examinations of cargo gear be made by or under the supervision of the marine inspector. This advance notice shall be given to the Officer in Charge, Marine Inspection, in whose marine inspection zone the vessel is available for such inspection and examination.

(b) For the initial inspection and examination of cargo gear by the Coast Guard, the advance notice shall be to the cognizant Officer in Charge, Marine Inspection, as early as possible and shall include sketches and/or drawings showing each unit of cargo gear, the identification of component

parts and the safe working loads. Copies of original certificates of manufacturers and/or testing laboratories, companies, or organizations maintained on the vessel may be accepted by the cognizant Officer in Charge, Marine Inspection, when satisfied such certificates properly describe the qualities of the component parts of the gear in question.

§ 71.47-85 Responsibility for conducting required tests and examinations.

(a) The vessel's owners and/or operators shall furnish and pay the expenses required in conducting the tests and examinations prescribed by the regulations in this subpart, including the supplying of all instruments, other equipment, and personnel including personnel supervision for performance of all work required.

(b) The Coast Guard's participation in these required tests and examinations shall be confined to witnessing required tests and examinations with the view to determining whether or not the gear is satisfactory for the purpose intended. In the event it is determined that the gear is defective or unable to meet the standards set forth in this subpart, such gear, or portions thereof, shall be replaced to the satisfaction of the Officer in Charge, Marine Inspection, having jurisdiction over the vessel.

Subpart 71.50—Drydocking

§ 71.50-1 Definitions relating to hull examinations.

As used in this part—

(a) *Drydock examination* means hauling out a vessel or placing a vessel in a drydock or slipway for an examination of all accessible parts of the vessel's underwater body and all through-hull fittings, sea chests, sea valves, sea strainers, and valves for the emergency bilge suction.

(b) *Internal structural examination* means an examination of the vessel while afloat or in drydock and consists of a complete examination of the vessel's main strength members, including the major internal framing, the hull plating, voids, and ballast tanks.

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but not including cargo or fuel oil tanks.

[CGD 84-024, 52 FR 39652, Oct. 23, 1987, as amended by CGD 84-024, 53 FR 32231, Aug. 24, 1988]

§ 71.50-3 Drydock and internal structural examination intervals.

(a) Each vessel making international voyages must undergo a drydock and internal structural examination once every 12 months.

(b) Except as provided in paragraphs (c) through (f) of this section, each vessel not making international voyages must undergo a drydock and internal structural examination as follows:

(1) Except as provided in paragraph (b)(2) of this section, vessels that operate in salt water must undergo two drydock and two internal structural examinations within any five year period. No more than three years may elapse between any two examinations.

(2) Vessels 20 years of age or older that operate in salt water and accommodate overnight passengers must undergo drydock and internal structural examinations at intervals not to exceed 18 months.

(3) Vessels that operate in fresh water at least six months in every 12 month period since the last drydock examination must undergo drydock and internal structural examinations at intervals not to exceed five years.

(c) Vessels with wooden hulls must undergo two drydock and two internal structural examinations within any five year period regardless of the type of water in which they operate. No more than three years may elapse between any two examinations.

(d) If, during an internal structural examination, damage or deterioration to the hull plating or structural members is discovered, the Officer in Charge, Marine Inspection, may require the vessel to be drydocked or otherwise taken out of service to further assess the extent of the damage and to effect permanent repairs.

(e) Each vessel which has not met the applicable examination schedules in paragraphs (a) through (d) of this section because it is on a voyage, must undergo the required examinations upon completion of the voyage.

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(f) The Commandant (G-MVI) may authorize extensions to the examination intervals specified in paragraph (a) through (c) of this section.

[CGD 84-024, 52 FR 39652, Oct. 23, 1987, as amended by CGD 84-024, 53 FR 32231, Aug. 24, 1988]

§ 71.50-5 Notice and plans required.

(a) The master, owner, operator, or agent of the vessel shall notify the Officer in Charge, Marine Inspection whenever the vessel is to be drydocked, regardless of the reason for drydocking.

(b) Each vessel, except barges, that holds a Load Line Certificate must have on board a plan showing the vessel's scantlings. This plan must be made available to the Coast Guard marine inspector whenever the vessel undergoes a drydock examination or internal structural examination or whenever repairs are made to the vessel's hull.

(c) Each barge that holds a Load Line Certificate must have a plan showing the barge's scantlings. The plan need not be maintained on board the barge but must be made available to the Coast Guard marine inspector whenever the barge undergoes a drydock examination or internal structural examination, or whenever repairs are made to the barge's hull.

[CGD 84-024, 52 FR 39652, Oct. 23, 1987]

Subpart 71.53—Integral Fuel Oil Tank Examinations

§ 71.53-1 When required.

(a) Each fuel oil tank with at least one side integral to the vessel's hull and located within the hull ("integral fuel oil tank") is subject to inspection as provided in this section. Each integral fuel oil tank is subject to inspection as provided in this section. The owner or operator of the vessel shall have the tanks cleaned out and gas freed as necessary to permit internal examination of the tank or tanks designated by the marine inspector. The owner or operator shall arrange for an examination of the fuel tanks of each vessel during an internal structural ex-

amination at intervals not to exceed five years.

(b) Integral non-double-bottom fuel oil tanks need not be cleaned out and internally examined if the marine inspector is able to determine by external examination that the general condition of the tanks is satisfactory.

(c) Double-bottom fuel oil tanks on vessels less than 10 years of age need not be cleaned out and internally examined if the marine inspector is able to determine by external examination that the general condition of the tanks is satisfactory.

(d) All double-bottom fuel oil tanks on vessels 10 years of age or older but less than 15 years of age need not be cleaned out and internally examined if the marine inspector is able to determine by internal examination of at least one forward double-bottom fuel oil tank, and by external examination of all other double-bottom fuel oil tanks on the vessel, that the general condition of the tanks is satisfactory.

(e) All double-bottom fuel oil tanks on vessels 15 years of age or older need not be cleaned out and internally examined if the marine inspector is able to determine by internal examination of at least one forward, one amidships, and one aft double-bottom fuel oil tank, and by external examination of all other double-bottom fuel oil tanks on the vessel, the general condition of the tanks is satisfactory.

[CGD 84-024, 52 FR 39652, Oct. 23, 1987, as amended by CGD 84-024, 53 FR 32231, Aug. 24, 1988]

Subpart 71.55—Repairs and Alterations

§ 71.55-1 Permission required.

(a) No repairs or alterations affecting the safety of the vessel with regard to the hull, machinery, or equipment, shall be made without the knowledge of the Officer in Charge, Marine Inspection.

(b) Drawings of alterations shall be approved before work is started, unless deemed unnecessary by the Officer in Charge, Marine Inspection.

(c) Drawings will not be required for repairs in kind.

§ 71.55-5 Inspection required.

(a) An inspection, either general or partial depending upon the circumstances, shall be made whenever any important repairs or alterations are undertaken.

Subpart 71.60—Special Operating Requirements

§ 71.60-1 Inspection and testing required when making alterations, repairs, or other such operations involving riveting, welding, burning or like fire-producing actions.

(a) The provisions of "Standard for the Control of Gas Hazards on Vessels to be Repaired," NFPA No. 306, published by National Fire Protection Association, 60 Batterymarch Street, Boston, Mass., 02110, shall be used as a guide in conducting the inspections and issuance of certificates required by this section.

(b) Until an inspection has been made to determine that such operation can be undertaken with safety, no alterations, repairs, or other such operations involving riveting, welding, burning, or like fire-producing actions shall be made:

(1) Within or on the boundaries of cargo tanks which have been used to carry combustible liquid or chemicals in bulk; or,

(2) Within or on the boundaries of fuel tanks; or,

(3) To pipe lines, heating coils, pumps, fittings, or other appurtenances connected to such cargo or fuel tanks.

(c) Such inspections shall be made and evidenced as follows:

(1) In ports or places in the United States or its territories and possessions the inspection shall be made by a marine chemist certificated by the National Fire Protection Association; however, if the services of such certified marine chemist are not reasonably available, the Officer in Charge, Marine Inspection, upon the recommendation of the vessel owner and his contractor or their representative, shall select a person who, in the case of an individual vessel, shall be authorized to make such inspection. If the inspection indicated that such op-

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erations can be undertaken with safety, a certificate setting forth the fact in writing and qualified as may be required, shall be issued by the certified marine chemist or the authorized person before the work is started. Such qualifications shall include any requirements as may be deemed necessary to maintain, insofar as can reasonably be done, the safe conditions in the spaces certified throughout the operation and shall include such additional tests and certifications as considered required. Such qualifications and requirements shall include precautions necessary to eliminate or minimize hazards that may be present from protective coatings or residues from cargoes.

(2) When not in such a port or place, and a marine chemist or such person authorized by the Officer in Charge, Marine Inspection, is not reasonably available, the inspection shall be made by the senior officer present and a proper entry shall be made in the vessel's logbook.

(d) It shall be the responsibility of the senior officer present to secure copies of certificates issued by the certified marine chemist or such person authorized by the Officer in Charge, Marine Inspection. It shall be the responsibility of the senior officer present, insofar as the persons under his control are concerned, to maintain a safe condition on the vessel by full observance of all qualifications and requirements listed by the marine chemist in the certificate.

Subpart 71.65—Plan Approval

§ 71.65-1 General.

(a) The list of required plans is general in character, but includes all plans in § 71.65-5 which normally show construction and safety features coming under the cognizance of the Coast Guard. In the case of a particular vessel, all of the plans enumerated may not be applicable, and it is intended that only those plans and specifications be submitted as will clearly show the vessel's arrangement, construction and required equipment.

(b) In the list of required plans in § 71.65-5 the items which must be approved by the American Bureau of

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Shipping for vessels classed by that organization are indicated by an asterisk. When prints bearing record of such approval by the American Bureau of Shipping are forwarded to the Coast Guard they will in general be accepted as satisfactory except insofar as the law or the Coast Guard regulations contain requirements which are not covered by the American Bureau of Shipping.

§ 71.65-5 Plans and specifications required for new construction.

(a) *General.* (1) Specifications.

(2) General Arrangement Plan of decks, holds, inner bottoms, etc., and including inboard and outboard profile.

(b) *Hull structure.*¹

(1) *Inner Bottom Plating and Framing.

(2) *Midship Section.

(3) *Shell Plating and Framing.

(4) *Stem, Stern Frame, and Rudder.

(5) *Structural Deck Plans for Strength Decks.

(6) *Pillars and Girders.

(7) *Watertight and Oiltight Bulkheads.

(8) *Foundations for Main Machinery and Boilers.¹

(9) *Arrangement of Ports, Doors, and Airports in Shell Plating.

(10) *Hatch Coamings and Covers in Weather and Watertight Decks.

(11) *Details of Subdivision Watertight Doors and Operating Gear.

(12) *Scuppers and Drains Penetrating Shell Plating.

(13) *Arrangement of the cargo gear including a stress diagram. The principal details of the gear and the safe working load for each component part shall be shown.

(c) *Subdivision and stability.* Plans and calculations required by subchapter S of this chapter.

(d) *Fire control.* (1) Fire control diagram showing location and type of all required fire-screen insulation, including main fire zone and subdivisions, stairway and elevator enclosures, con-

¹The asterisk (*) indicates items which may require approval by the American Bureau of Shipping for vessels classed by that society.

trol space enclosures, etc., and type of all doors in such subdivisions and enclosures.

(2) Comprehensive typical details of fire-screen insulation of both vertical and horizontal surfaces, including deck coverings where used, keyed by reference numbers to the "fire control diagram".

(3) Ventilation diagram including dampers and other fire control features.

(4) Alarm systems.

(5) Detecting systems.

(6) Extinguishing systems, including fire mains, carbon dioxide, foam, and sprinkling systems.

(7) Supervised Patrol Route.

(e) *Marine engineering.* (1) For plans required for marine engineering equipment and systems, see subchapter F (Marine Engineering) of this chapter.

(f) *Electrical engineering.* (1) For plans required for electrical engineering equipment and systems, see subchapter J (Electrical Engineering) of this chapter.

(g) *Lifesaving equipment.* (1) These plans are to show the location and arrangement of embarkation decks, all overboard discharges and projections in way of launching lifeboats, weights of lifeboats fully equipped and loaded, working loads of davits and winches, types and sizes of falls, the manufacturer's name and identification for all equipment, and all other relevant and necessary information.

(i) Arrangement of lifeboats.

(ii) Arrangement of davits.

(iii) Location and stowage of liferafts and buoyant apparatus.

(h) *Crew's accommodations.* (1) Arrangement plans showing accommodations, ventilation, escapes, hospital, and sanitary facilities for all crewmembers.

(i) *Navigation bridge visibility.* For vessels of 100 meters (328 feet) or more in length contracted for on or after September 7, 1990, a plan must be included which shows how visibility from the navigation bridge will meet the standards contained in § 72.04-1 of this subchapter.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGD 79-023, 48 FR 51007, Nov. 4, 1983; CGD 85-099, 55 FR 32247, Aug. 8, 1990]

§ 71.65-10 Plans required for alterations of existing vessels.

(a) In the event of alterations involving the safety of the vessel, the applicable plans shall be submitted for approval covering the proposed work, except as modified by § 71.55-1(b). The general scope of the plans shall be as noted in § 71.65-5.

§ 71.65-15 Procedure for submittal of plans.

(a) As the relative location of shipyards, design offices, and Coast Guard offices vary throughout the country, no specific routing will be required in the submittal of plans. In general, one of the following procedures would apply, but in a particular case, if a more expeditious procedure can be used, there will be no objection to its adoption:

(1) The plans may be submitted to the Officer in Charge, Marine Inspection, in the district in which the vessel is to be built. This procedure will be most expeditious in the case of those offices where personnel and facilities are available for examination and approval of the plans locally.

(2) The plans may be submitted directly to the Commandant (G-MTH), U.S. Coast Guard, Washington, DC 20593-0001. In this case, the plans will be returned directly to the submitter, with a copy of the action being forwarded to the interested Officer in Charge, Marine Inspection.

(3) The plans may be submitted directly to Commanding Officer, U.S. Coast Guard Marine Safety Center (G-MSC), 400 Seventh St., SW., Washington, DC 20590-0001.

(4) In the case of classed vessels, upon specific request by the submitter, the American Bureau of Shipping will arrange to forward the necessary plans to the Coast Guard indicating its action thereon. In this case, the plans will be returned as noted in paragraph (a)(2) of this section.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by: CGD 82-063b, 48 FR 4781, Feb. 3, 1983; CGD 85-048b, 51 FR 15497, Apr. 24, 1986; CGD 88-070, 53 FR 34534, Sept. 7, 1988; CGD 89-025, 54 FR 19571, May 8, 1989]

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§ 71.65-20 Number of plans required.

(a) Three copies of each plan are normally required so that one can be returned to the submitter. If the submitter desires additional approved plans, a suitable number should be submitted to permit the desired distribution.

[CGFR 65-50, 30 FR 16895, Dec. 30, 1965, as amended by CGFR 69-116, 35 FR 6861, Apr. 30, 1970]

Subpart 71.75—Certificates Under the International Convention for Safety of Life at Sea, 1960

§ 71.75-1 Application.

(a) The provisions of this subpart shall apply to all vessels on an international voyage.

§ 71.75-5 Passenger Ship Safety Certificate or Nuclear Passenger Ship Safety Certificate.

(a) All vessels on an international voyage are required to have a "Passenger Ship Safety Certificate" or a "Nuclear Passenger Ship Safety Certificate," as appropriate.

(b) All such vessels shall meet the requirements of this chapter for vessels on an international voyage.

§ 71.75-10 Exemption Certificate.

(a) A vessel may be exempted by the Commandant from complying with certain requirements of the Convention under his administration upon request made in writing to him and transmitted via the Officer in Charge, Marine Inspection.

(b) When an exemption is granted to a vessel by the Commandant under and in accordance with the Convention, an Exemption Certificate describing such exemption shall be issued through the appropriate Officer in Charge, Marine Inspection, in addition to the Passenger Ship Safety Certificate.

(c) Nuclear vessels cannot be exempted from any requirements of the International Convention for Safety of Life at Sea, 1974.

[CGFR, 65-50, 30 FR 16895, Dec. 30, 1965, as amended at CGD 90-068, 55 FR 30661, July 26, 1990]

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§ 71.75-15 Posting of Convention certificates.

(a) The certificates described in this subpart, or certified copies thereof, when issued to a vessel shall be posted in a prominent and accessible place on the vessel.

(b) The certificate shall be carried in a manner similar to that described in § 71.01-5 for a certificate of inspection.

§ 71.75-20 Duration of certificates.

(a) The certificates shall be issued for a period of not more than 12 months.

(b) An Exemption Certificate shall not be valid for longer than the period of the Passenger Ship Safety Certificate to which it refers.

(c) The Passenger Ship Safety Certificate or the Nuclear Passenger Ship Safety Certificate may be withdrawn, revoked, or suspended at any time when it is determined the vessel is no longer in compliance with applicable requirements. (See § 2.01-70 of this chapter for procedures governing appeals.)

PART 72—CONSTRUCTION AND ARRANGEMENT

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- 72.20-25 Washrooms and toilet rooms.
- 72.20-30 Messrooms.
- 72.20-35 Hospital space.
- 72.20-40 Other spaces.
- 72.20-45 Lighting.
- 72.20-50 Heating.
- 72.20-55 Insect screens.

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- 72.20-90 Vessels contracted for prior to November 19, 1952.

Subpart 72.25—Passenger Accommodations

- 72.25-1 Application.
- 72.25-5 Steerage passengers.
- 72.25-10 Location of passenger quarters.
- 72.25-15 Passenger accommodations for excursion boats, ferryboats, and passenger barges.

Subpart 72.30—Subdivision and Stability

- 72.30-1 Application.
- 72.30-5 Bulk grain cargoes.

Subpart 72.40—Rails and Guards

- 72.40-1 Application.
- 72.40-5 Where rails required.
- 72.40-10 Storm rails.
- 72.40-15 Vehicular ferries.
- 72.40-20 Guards in dangerous places.
- 72.40-90 Vessels contracted for prior to July 1, 1969.

AUTHORITY: 46 U.S.C. 3306, 5115; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16903, Dec. 30, 1965, unless otherwise noted.

Subpart 72.01—Hull Structure

§ 72.01-1 Application.

(a) The provisions of this subpart, with the exception of § 72.01-90, shall apply to all vessels contracted for on or after November 19, 1952, which are not subject to the act of May 10, 1956 (46 U.S.C. 390-390g). Vessels contracted for prior to November 19, 1952, which are not subject to the act of May 10, 1956, shall meet the requirements of § 72.01-90. The application of this subpart to vessels subject to the act of May 10, 1956, shall be in accordance with the policy expressed in § 70.05-15 of this subchapter.

§ 72.01-5 Vessels subject to load line.

(a) For vessels assigned a load line, see subchapter E (Load Lines) of this chapter, for special requirements as to strength, closure of openings, etc.

§ 72.01-10 Vessels using fuel having a flashpoint of 110 degrees F. or lower.

(a) Where liquid fuel having a flashpoint of 110 degrees F. or lower is car-

ried for main or auxiliary machinery or for starting purposes, such machinery and fuel tanks shall be in separate vapor tight compartments separating each from the other and from the remainder of the vessel.

§ 72.01-15 Structural standards.

(a) In general, compliance with the standards established by the American Bureau of Shipping, see subpart 70.35 of this subchapter, will be considered satisfactory evidence of the structural efficiency of the vessel. However, in special cases, a detailed analysis of the entire structure or some integral part may be made by the Coast Guard to determine the structural requirements.

§ 72.01-20 Special consideration.

(a) Special consideration will be given to the structural requirements for vessels, such as small vessels or vessels of unusual design not contemplated by the standards established by the American Bureau of Shipping, see subpart 70.35 of this subchapter.

§ 72.01-25 Additional structural requirements.

(a) Vessels required by part 171 of this chapter to have subdivision bulkheads, double bottoms, etc. must comply with the following structural requirements:

(1) Each watertight subdivision bulkhead, whether transverse or longitudinal, shall be constructed in such a manner that it shall be capable of supporting, with a proper margin of resistance, the pressure due to the maximum head of water which it might have to sustain in the event of damage to the vessel, but at least the pressure due to a head of water up to the margin line. The construction of the bulkheads shall be to the satisfaction of the Commandant.

(2) Steps and recesses in subdivision bulkheads shall be watertight and as strong as the bulkhead at the place where each occurs. Decks, trunks, tunnels, duct keels, ventilators, etc., that are made watertight to maintain the subdivision requirements for a vessel shall be of the same strength as the bulkhead at the corresponding levels. The means used for making them wa-

tertight and the arrangements adopted for closing openings in them shall be to the satisfaction of the Commandant. Watertight ventilators and trunks shall be carried at least up to the bulkhead deck.

(3) Where frames or beams pass through a watertight bulkhead or deck, such bulkhead or deck shall be made structurally watertight without the use of wood, cement, or similar materials.

(4) Subdivision bulkheads, including steps, recesses, trunks, tunnels, ventilators, etc., which might form part of such bulkheads, shall be thoroughly examined and hose tested upon completion of construction. The water pressure for such tests shall be at least 30 p.s.i. Testing of main compartments by filling them with water is not compulsory.

(5) The forepeak, double bottoms (including duct keels), and inner skins shall be tested with water to-a-head corresponding to the requirements of paragraph (a)(1) of this section upon completion of construction.

(6) The watertight space enclosing the stern tube shall be tested by filling with water to-a-head up to the deepest subdivision load line.

(7) Tanks which are intended to hold liquids, and which form part of the subdivision of the vessel, shall be tested for tightness upon completion of construction with water to-a-head up to the deepest subdivision load line or to-a-head corresponding to $\frac{1}{2}$ of the depth from the top of the keel to the margin line in way of the tanks, whichever is greater; but in no case shall the test-head be less than 3 feet above the top of the tank.

(8) The tests referred to in the preceding paragraphs (a) (5), (6), and (7) of this section are for the purpose of insuring that the subdivision structural arrangements are watertight and are not regarded as a test of the fitness of any compartment for the storage of oil, fuel or for other specific purposes for which a test of a superior character may be required depending upon the height to which the liquid has access in the tank or its connections.

[CGFR 65-50, 30 FR 16903, Dec. 30, 1965, as amended by CGD 79-023, 48 FR 51007, Nov. 4, 1983]

§ 72.01-90 Vessels contracted for prior to November 19, 1952.

(a) Existing structure previously approved will be considered satisfactory so long as it is maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original construction.

[CGFR 65-50, 30 FR 16903, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15281, Dec. 6, 1966]

Subpart 72.03—General Fire Protection

§ 72.03-1 Application.

(a) The provisions of this subpart shall apply to all vessels.

§ 72.03-5 Fire hazards to be minimized.

(a) The general construction of the vessel shall be such as to minimize fire hazards insofar as is reasonable and practicable.

§ 72.03-10 Woodwork insulated from heated surfaces.

(a) Internal combustion engine exhausts, boiler and galley uptakes and similar sources of ignition shall be kept clear of and suitably insulated from any woodwork or other combustible matter.

§ 72.03-15 Lamp room construction.

(a) Lamp, paint, and oil lockers and similar compartments shall be constructed of steel or shall be wholly lined with metal.

Subpart 72.04—Navigation Bridge Visibility

§ 72.04-1 Navigation bridge visibility.

Each passenger vessel which is 100 meters (328 feet) or more in length and contracted for on or after September 7, 1990, must meet the following requirements:

(a) The field of vision from the navigation bridge, whether the vessel is in

a laden or unladen condition, must be such that:

(1) From the conning position, the view of the sea surface is not obscured forward of the bow by more than the lesser of two ship lengths or 500 meters (1640 feet) from dead ahead to 10 degrees on either side of the vessel. Within this arc of visibility any blind sector caused by cargo, cargo gear, or other permanent obstruction must not exceed 5 degrees.

(2) From the conning position, the horizontal field of vision extends over an arc from at least 22.5 degrees abaft the beam on one side of the vessel, through dead ahead, to at least 22.5 degrees abaft the beam on the other side of the vessel. Blind sectors forward of the beam caused by cargo, cargo gear, or other permanent obstruction must not exceed 10 degrees each, nor total more than 20 degrees, including any blind sector within the arc of visibility described in paragraph (a)(1) of this section.

(3) From each bridge wing, the field of vision extends over an arc from at least 45 degrees on the opposite bow, through dead ahead, to at least dead astern.

(4) From the main steering position, the field of vision extends over an arc from dead ahead to at least 60 degrees on either side of the vessel.

(5) From each bridge wing, the respective side of the vessel is visible forward and aft.

(b) Windows fitted on the navigation bridge must be arranged so that:

(1) Framing between windows is kept to a minimum and is not installed immediately in front of any work station.

(2) Front windows are inclined from the vertical plane, top out, at an angle of not less than 10 degrees and not more than 25 degrees.

(3) The height of the lower edge of the front windows is limited to prevent any obstruction of the forward view previously described in this section.

(4) The height of the upper edge of the front windows allows a forward view of the horizon at the conning position, for a person with a height of eye of 1.8 meters (71 inches), when the vessel is at a forward pitch angle of 20 degrees.

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(c) Polarized or tinted windows must not be fitted.

[CGD 85-099, 55 FR 32247, Aug. 8, 1990]

Subpart 72.05—Structural Fire Protection

§ 72.05-1 Application.

(a) The provisions of this subpart shall apply to the following vessels:

(1) All vessels of 100 gross tons and over.

(2) All vessels which carry more than 150 passengers.

(3) All vessels on an international voyage.

(b) The provisions of this subpart, with the exception of § 72.05-90, shall apply to all vessels noted in paragraph (a) of this section contracted for on or after May 26, 1965. Such vessels contracted for prior to May 26, 1965, shall meet the requirements of § 72.05-90.

§ 72.05-5 Definitions.

NOTE: The parenthetical number after each space refers to the applicable column and row number in Tables 72.05-10 (d) through (g).

(a) *Safety areas* will be considered as including the following spaces:

(1) Control stations, i.e., spaces containing the emergency source of power, and those spaces in which a continuous watch is maintained and in which navigating, radio, or fire-control equipment is located. (1)

(2) Passenger and crew stairway and elevator enclosures. (2)

(3) Passenger and crew communicating corridors. (3)

(4) Open decks and enclosed promenades in way of lifeboat embarkation or lowering positions. (4) (See also paragraph (1) of this section.)

(b) *Accommodation spaces* will be considered as including the following spaces:

(1) Public spaces, such as halls, dining rooms, messrooms, lounges, cafes, and other similar spaces normally accessible during the voyage. (5) through (7) (Depending upon size and furnishings.)

(2) Public sales rooms and similar spaces. (6) or (7) (Depending on size.)

(3) Staterooms, including passenger and crew rooms, barber shops, beauty

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parlors, offices, dispensaries, etc. (5) or (6) (Depending on furnishings.)

(4) Washrooms and toilet spaces, both public and private. (8)

(5) Isolated lockers and small storerooms in accommodation areas. (6)

(6) Isolated serving pantries, etc., in accommodation areas, with incombustible furnishings. (8)

(7) Operating rooms. (8)

(8) Small laundries containing only tubs and washing machines, with no facilities for drying other than small electric driers. (8)

(9) Small cleaning gear lockers containing only slop sinks, and having no room for stowing materials other than a broom, mop, cleaning powder, soap, etc. (8)

(10) Large cleaning gear lockers having considerable stowage space. (6) or (9)

(c) *Service spaces* will be considered as including the following spaces:

(1) Motion picture projection rooms and film stowage rooms. (6) or (9)

(2) Galleys, main pantries, and storerooms, including alleyways and stairs, part of and for the exclusive use of such spaces. (9)

(3) Diet kitchens. (6) or (9) (Depending on furnishing.)

(4) Work shops (not part of machinery spaces, galleys, etc.), large laundries, drying rooms, mail and baggage rooms, etc. (9)

(5) Garbage disposal and stowage rooms, and trash stowage rooms. (9)

(6) Paint and lamp rooms, and similar spaces containing highly combustible materials. (9)

(d) *Machinery spaces*—will be considered as including the following spaces:

(1) Main machinery spaces, including trunks and casings, alleyways, gratings, and stairways, part of and for the exclusive use of these spaces, auxiliary machinery spaces containing internal combustion machinery or other oil burning, heating, or pumping units, and fuel oil filling stations. (10)

(2) Auxiliary machinery spaces containing only pumps, tanks, electrical machinery, ventilation or air conditioning equipment, resistors, steering machinery, stabilizer machinery, etc. (12) (Where such spaces contain considerable stowage space for combustibles.) (10)

(e) *Cargo spaces* will be considered as including the following spaces:

(1) Cargo holds, lockers, and trunks, both accessible and inaccessible and including refrigerated cargo spaces and cargo oil tanks intended for the alternate carriage of dry cargo. (11)

(2) Cargo oil tanks if not intended for the alternate carriage of dry cargo. (12)

(f) *Miscellaneous spaces* will be considered as including the following spaces:

(1) Fuel and water tanks and voids. (12)

(2) Open decks and enclosed promenades except in way of lifeboat embarkation and lowering positions. (13) (See also paragraph (1) of this section.)

(3) Shaft alleys when separated from machinery spaces, and containing no space assigned for the stowage of combustibles. (12)

(g) A *standard fire test* is one which develops in the test furnace a series of time-temperature relationships as follows:

5 minutes.....	1,000° F.
10 minutes.....	1,300° F.
30 minutes.....	1,550° F.
60 minutes.....	1,700° F.

(h) *Main vertical zones* are those sections, the mean length of which does not, in general, exceed 131 feet on any one deck, into which the hull, superstructure, and deckhouses are required to be divided by fire-resisting bulkheads.

(i) Where the term *steel or other equivalent metal* is used in this part, it is intended to require a material which, by itself or due to insulation provided, has structural and integrity qualities equivalent to steel at the end of the applicable fire exposure.

(j) *Working spaces* will be considered as only those service and machinery spaces where personnel are normally employed as contrasted to those where personnel may occasionally visit or be employed for short periods of time.

(k) *Passenger or crew corridors* over 8 feet in width will be considered as public spaces for the purpose of this subpart.

(l) Spaces which might be considered as open decks due to the presence of

permanent openings to the weather in one or more sides, or where any or all sides may be completely open to the weather, will be considered as interior or enclosed spaces for the purpose of this subpart if any spot on the overhead is more than 15 feet from the nearest opening to the weather. This requirement shall only apply to those portions of the space as are under a deck or canopy, but it shall not be considered as a restriction against permanent opening or a restriction against the materials used for a canopy. This paragraph shall not apply to open or enclosed promenades having a nominal width of 15 feet or less.

(m) Where balconies are installed opening into a space, the following general requirements shall be met:

(1) For the purpose of meeting main vertical zone bulkhead spacing, the length of the space to which the balcony is open will be considered as being increased by an amount equal to the gross area of the balcony divided by the average width of the space.

(2) Where balconies are formed by penetrating one or more decks, the bulkheads in the upper portion of the space are, in effect, part of a stepped or recessed deck and should be treated as such for fire control purposes. In this regard, particular attention should be given to the protection of openings with proper doors of the type indicated in § 72.05-25(b)(9).

(3) Two means of escape shall be provided for each balcony, at least one of which shall be independent of the space to which the balcony is open.

§ 72.05-10 Type, location, and construction of fire control bulkheads and decks.

(a) The hull, structural bulkheads, decks, and deckhouses shall be constructed of steel or other equivalent metal construction of appropriate scantlings.

(b) The hull, superstructure, and deck houses shall be subdivided by suitable structural steel or other equivalent metal bulkheads into main vertical zones, the mean length of which shall not, in general, exceed 131 feet on any one deck. Where practicable, the main vertical zone bulkheads

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shall be kept in a single vertical plane. However, on vessels designed for special purposes, such as automobile or railroad car ferries, where the installation of such bulkheads would defeat the purpose for which the vessel is intended, equivalent means for controlling and limiting a fire may be substituted if specifically approved by the Commandant.

(c) All bulkheads and decks shall be classed as A-60, A-30, A-15, A-0, B-15, B-0, or C, depending upon the type of space on each side of the bulkhead or above and below the deck.

(1) Bulkheads or decks of the "A" Class shall be composed of steel or equivalent metal construction, suitably stiffened and made intact with the main structure of the vessel, such as shell, structural bulkheads, and decks. They shall be so constructed that, if subjected to the standard fire test, they would be capable of preventing the passage of smoke and flame for 1 hour. In addition, they shall be so insulated with approved structural insulation, bulkhead panels, or deck covering that the average temperatures on the unexposed side would not rise more than 250° F. above the original temperature, nor would the temperature at any one point, including any joint, rise more than 325° F. above the original temperature, within the time listed below:

Class A-60.....	60 minutes.
Class A-30.....	30 minutes.
Class A-15.....	15 minutes.
Class A-0.....	0 minutes (i.e., no insulation requirements).

(2) Bulkheads of the "B" Class shall be constructed with approved incombustible materials and made intact from deck to deck (or to ceiling as provided in paragraph (h) of this section)

and to shell or other boundaries. They shall be so constructed that, if subjected to the standard fire test, they would be capable of preventing the passage of flame for ½ hour. In addition, their insulation value shall be such that the average temperature of the unexposed side would not rise more than 250° F. above the original temperature, nor would the temperature at any one point, including any joint, rise more than 405° F. above the original temperature within the time listed below:

Class B-15.....	15 minutes.
Class B-0.....	0 minutes (i.e., no insulation requirements).

(3) Class C bulkheads or decks shall be constructed of approved incombustible materials, but need meet no requirements relative to the passage of flame nor the limiting of temperature rise.

(d) The minimum requirements for the bulkheads between the various spaces, where such bulkheads form the boundaries of main vertical zones, shall be as noted in Table 72.05-10(d).

(e) The minimum requirements for the bulkheads between the various spaces, where such bulkheads do not form the boundaries of main vertical zones, shall be as noted in Table 72.05-10(e).

(f) The minimum requirements for the decks between the various spaces, where such decks form the boundaries of stepped main vertical zones, shall be as noted in Table 72.05-10(f).

(g) The minimum requirements for the decks between the various spaces, where such decks do not form the boundaries of stepped main vertical zones, shall be as noted in Table 72.05-10(g).

TABLE 72.05-10(d)—BULKHEADS—MAIN VERTICAL ZONE

This space	Adjacent to this space												
	Control stations	Stairway and elevator enclosures	Com- bustible doors	Life boat embar- cation or lower- ing stations	State- rooms and all public spaces with incom- bustible veneers and fire resist- ant furnish- ings	State- rooms and all public spaces of 500 square feet or less with com- bustible furnish- ings and isolated store- rooms	Public spaces over 500 square feet with com- bustible furnish- ings	Wash- rooms, toilet spaces, and isolated pantries with incom- bustible fittings	Galley, main store- rooms, and work- shops	Machin- ery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and en- closed promenades (not safety areas)
Control stations	1	A-60	A-15	A-15	A-0	A-30	A-60	A-60	A-0	A-60	A-60	A-0	A-0
Stairway and elevator enclosures	2	A-0	A-0	A-0	A-0	A-0	A-60	A-60	A-0	A-60	A-60	A-0	A-0
Com- bustible doors	3	A-0	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Lifeboat embarkation or lowering stations	4												
State-rooms and all public spaces with incombustible veneers and fire resistant furnishings	5					A-15	A-15	A-15	A-0	A-30	A-30	A-0	A-0
State-rooms and public spaces of 500 square feet or less with combustible furnishings, and isolated store-rooms	6						A-60	A-60	A-0	A-60	A-60	A-0	A-0
Public spaces over 500 square feet with combustible furnishings	7							A-60	A-0	A-60	A-60	A-0	A-0
Washrooms, toilet spaces, and isolated pantries with incombustible fittings	8								A-0	A-0	A-0	A-0	A-0
Galleys, main pantries, storerooms, and work-shops	9												
Machinery spaces	10												
Dry cargo spaces	11												
Fuel and water tanks and voids	12												
Open decks and enclosed promenades (not safety areas)	13												C

TABLE 72.05-10(e)—BULKHEADS—NOT MAIN VERTICAL ZONES

This space	Control stations	Stairways and elevator enclosures	Lifeboat embarkation or lowering stations	State rooms and all public spaces of 500 square feet or less with built-in bunking and fire-resistant furnishings	Public spaces of 500 square feet or less with built-in bunking and fire-resistant furnishings	Public spaces of 500 square feet or less with built-in bunking and fire-resistant furnishings	Galley, main pantries, and storerooms	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and enclosed promenades (not safety areas)
Control stations	1	B-0	A-0	A-0	A-15	A-60	A-60	A-60	A-60	A-0	A-0
Stairways and elevator enclosures	2	A-0	A-0	A-0	A-0	A-60	A-60	A-60	A-60	A-0	A-0
Lifeboat embarkation or lowering stations	3	C	A-0	A-0	B-0	A-0	B-0	A-0	A-0	A-0	A-0
State rooms and all public spaces of 500 square feet or less with built-in bunking and fire-resistant furnishings	4				A-0	A-0	A-0	A-0	A-0	A-0	C
Public spaces of 500 square feet or less with built-in bunking and fire-resistant furnishings	5				B-0	B-15	A-15	A-15	A-15	A-0	A-0
Galley, main pantries, and storerooms	6				B-15	B-15	A-30	A-60	A-60	A-0	A-0
Machinery spaces	7					A-60	B-0	A-60	A-60	A-0	A-0
Dry cargo spaces	8						C	A-0	A-0	A-0	A-0
Fuel and water tanks and voids	9							C ¹	A-0	A-0	A-0
Open decks and enclosed promenades (not safety areas)	10								A-0	A-0	A-0
	11								A-0	A-0	A-0
	12								A-0	A-0	A-0
	13								A-0	A-0	A-0

¹ Class C bulkheads may be used between two similar spaces, such as between two similar storerooms. However, a Class A-0 bulkhead shall be used between dissimilar spaces, such as a storeroom and a dry cargo workshop.

TABLE 72.05-10(f)—DECKS—MAIN VERTICAL ZONES

This space above	Control stations	Stairway and elevator enclosures	Lifeboat embarkation or lowering stations	State-rooms and public spaces of 500 square feet or less with combustible furnishings and fire resistant furnishings	State-rooms and public spaces of 500 square feet or less with combustible furnishings and fire resistant furnishings	Public spaces over 500 square feet with combustible furnishings	Washrooms, toilet spaces and isolated pantries with combustible fittings	Galley main pantries storerooms and shops	Machinery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and enclosed promenades (not safety areas)
This space below	1	A-60	A-30	A-0	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0
	2	A-15	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
	3	A-30	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
	4	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C
	5	A-30	A-15	A-0	A-15	A-15	A-30	A-0	A-0	A-0	A-0	A-0
	6	A-60	A-30	A-15	A-15	A-60	A-60	A-0	A-0	A-0	A-0	A-0
	7	A-60	A-60	A-30	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0
	8	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
	9	A-60	A-60	A-30	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0
	10	A-60	A-60	A-30	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0
	11	A-60	A-60	A-30	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0
	12	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
	13	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C

TABLE 72.05-10(g)—DECKS—NOT MAIN VERTICAL ZONES

	This space above											
	Control stations	Stairway and elevator enclosures	Life boat embarkation or lower- ing stations	State- rooms and all public spaces	State- rooms and public spaces over 500 square feet with combustible veneers and fire resistant furnishings	Public spaces over 500 square feet with combustible furnishings	Wash- rooms and toilet spaces with lavatories and pantries with built-in fittings	Galley main pantries, storerooms, and shops	Machin- ery spaces	Dry cargo spaces	Fuel and water tanks and voids	Open decks and enclosed promenades (not safety areas)
This space below												
Control stations	1 A-30	A-30	A-15	A-0	A-0	A-15	A-0	A-0	A-0	A-0	A-0	A-0
Stairway and elevator enclosures	2 A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Lifeboat embarkation or lowering stations	3 A-15	A-0	A-0	A-0	A-0	A-15	A-0	A-0	A-0	A-0	A-0	A-0
Staterooms and all public spaces with incombustible veneers and fire resistant furnishings	4 A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C
Staterooms and public spaces of 500 square feet or less with combustible furnishings and isolated storerooms	5 A-15	A-15	A-0	A-0	A-0	A-15	A-0	A-0	A-0	A-0	A-0	A-0
Public spaces over 500 square feet with combustible furnishings	6 A-60	A-60	A-30	A-15	A-0	A-30	A-0	A-0	A-0	A-0	A-0	A-0
Washrooms, toilet spaces, and isolated pantries with incombustible fittings	7 A-60	A-60	A-60	A-30	A-15	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Galleys, main pantries, storerooms, and work shops	8 A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Machinery spaces	9 A-60	A-60	A-60	A-30	A-15	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Dry cargo spaces	10 A-60	A-60	A-60	A-30	A-15	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Fuel and water tanks and voids	11 A-60	A-60	A-60	A-30	A-15	A-60	A-0	A-0	A-0	A-0	A-0	A-0
Open decks and enclosed promenades (not safety areas)	12 A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
	13 A-0	A-0	A-0	C	A-0	A-0	A-0	A-0	A-0	A-0	A-0	C

(h) Where ceilings or linings are fitted, "B" Class bulkheads, with the exception of those forming passageways, may stop at the ceiling or lining and need not continue to the deck or shell, provided the ceiling and/or lining is erected as indicated in paragraph (j) of this section. However, draft stops meeting at least Class B-0 requirements shall be fitted not more than 45 feet apart between the ceiling or lining and the deck or shell. The space behind the linings of stairways and similar trunks shall have similar draft stops at each deck.

(i) Where Class B-15 bulkhead panels are required to go beyond the ceiling to the deck above, or beyond the lining to the shell, the portion of the bulkhead panel within the void space need only meet B-0 requirements.

(j) Where "B" Class panels are used, all four edges of the panel shall be retained by continuous steel or equivalent metal flanges on both sides of the panel offering at least $\frac{1}{4}$ inch coverage. The top and bottom flanges shall be so attached to the structural decks above and below so as to support and restrain the panels in the event of fire. Other methods of construction may be specifically approved by the Commandant if determined to be equivalent.

(k) Any sheathing, furring, or holding pieces incidental to the securing of structural insulation shall be of approved incombustible materials.

(l) Where linings or bulkhead panels are framed away from the shell or structural bulkheads, the deck within the void space so formed need only meet Class A-0 requirements.

(m) Accommodation spaces, other than washrooms and toilet spaces, separated from corridors or other spaces covered by the supervised patrol by bulkheads of the "B" Class shall have a louver in the door. In lieu of the louver in the door, a screened opening approximately one inch in diameter will be accepted. Such opening to permit smoke to be detected by the patrol, shall be located as high as practicable in the bulkhead. In the event of a double bulkhead or similar construction, a suitable hollow sleeve or tube shall connect the inner and outer surfaces of the bulkhead.

(n) Decks within accommodation spaces and inside safety areas may have an overlay for leveling or finishing purposes which need not meet the requirements for an approved deck covering. Such an overlay will not be considered as giving any insulating value and may not in general exceed $\frac{1}{4}$ of an inch in thickness. Greater thicknesses may be specifically approved by the Commandant for specific locations.

(o) Rugs and carpets may be used in addition to any deck covering or overlay installed. Rugs and carpets used in stairways or corridors shall be of wool, or other materials having equivalent fire-resistive qualities.

(p) Decking within surgical operating rooms shall be of a type which is acceptably conductive to prevent accumulation of dangerous electrostatic charges, and shall be in general agreement with "Code for Flammable Anesthetics" of issue in effect at the time the construction or alteration of the vessel is contracted for, published by the National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110.

(q) Decks in washrooms and toilet spaces, service, cargo, and machinery spaces, open decks, exterior safety areas, and enclosed promenades may have an overlay in any thickness. This overlay need not meet the requirements for an approved deck covering.

§ 72.05-15 Ceilings, linings, trim, and decorations in accommodation spaces and safety areas.

(a) Ceilings and linings and any furring incidental to their erection shall be of approved incombustible materials. Where such ceilings or linings are given credit for their insulating value in obtaining a bulkhead or deck classification they shall be of Class B-15 bulkhead panel material, and the construction shall be as required by § 72.05-10(j).

(b) Bulkheads, linings, and ceilings may have a combustible veneer within a room not to exceed $\frac{1}{8}$ of an inch in thickness. However, combustible veneers shall not be used in passageways or stairway enclosures, or in spaces

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specifically restricted by Tables 72.05-10 (d) through (g).

(c) The total volume of combustible face trim, moldings, and decorations, including veneers, in any compartment shall not exceed a volume equivalent to $\frac{1}{16}$ inch veneer on the combined area of the walls of the compartment. Such trim, molding, or decorations shall not perform any structural function, and shall not be used in corridors or stairway enclosures.

(d) Combustible veneers, trim, decorations, etc., shall not be used in or extend into hidden spaces such as behind linings or ceilings or in the matter of double bulkheads.

(e) Nothing in this subpart shall be construed as prohibiting the covering of any surface with a reasonable number of coats of paint or with a Marine Finish meeting the requirements of subpart 164.012 of subchapter Q (Specifications) of this chapter. This includes corridors, stairway enclosures, and hidden spaces.

(f) Partial bulkheads or decks used to subdivide a space for artistic treatment, privacy, etc., shall meet the requirements of Class C bulkheads.

§ 72.05-20 Stairways, ladders, and elevators.

(a)(1) Except as further noted the provisions of this section apply to all vessels.

(2) For small vessels, special consideration for relief may be given where it is shown to be unreasonable or impracticable to meet the detailed requirements for stairway size, slope, dimensioning, and landing area.

(3) Stairways, ladders, and elevators within main machinery spaces or cargo holds are not covered by the general provisions of this section, but shall meet the requirements of paragraph (b) of this section.

(b) Stairways, ladders, and elevators within main machinery spaces and cargo holds shall meet the following requirements:

(1) All stairways, ladders, and elevators shall be of steel.

(c) Deck penetrations shall meet the following requirements:

(1) Where a continuous vertical deck penetration for a stairway or elevator exceeds one deck, the integrity of all

decks involved shall be assured by enclosure bulkheads and decks meeting the applicable requirements of § 72.05-10 (d) through (g), and by doors at all levels meeting the requirements of § 72.05-25(b)(9).

(2) Where only two decks are served by a stairway or elevator, the integrity of the deck involved may be assured as noted in the preceding paragraph. Alternately, the integrity may be maintained at one level only by means of bulkheads and by doors meeting the requirements of § 72.05-25(b)(9). If the latter method is used, it should be noted that the integrity of a deck is involved, and accordingly, the bulkhead classifications should be selected from Tables 72.05-10(f) or 72.05-10(g), the spaces above or below being assumed to extend to the bulkheads and doors.

(3) Stairways or elevators to a balcony within a space need not be enclosed, provided the stairway or elevator serves only the space and the balcony within the space.

(d) For the purpose of this section, stairways are identified as follows:

- Type 1—Main Vertical Zone enclosed stair towers.
- Type 2—Enclosed stairways other than Type 1.
- Type 3—Interior stairway not enclosed.
- Type 4—Exterior stairways or exterior inclined ladders.

(e) Each Main Vertical Zone shall be served by at least one Type 1 stairway, so that independent of adjoining Main Vertical Zones, escape may be effected from any accommodation space or any other space where persons may be normally quartered or employed, to ALL other decks having any such spaces within the same Main Vertical Zone without coming out of the stair tower enclosure. Each Type 1 stairway shall give access to the Embarkation Deck or, if the Embarkation Deck does not extend to the portion of the vessel in question, to at least one weather deck from which convenient communication to the Embarkation Deck is provided by means of Type 4 stairways. In cases where a Type 1 stairway is accessible from two Main Vertical Zones, it may be considered as the required Type 1 stairway for both zones provided

ed all boundaries of the stairway meet Main Vertical Zone requirements.

(f) Insofar as is reasonable and practicable, Types 1 and 2 stairways, and all elevator enclosures, should not give direct access to accommodations or other enclosed spaces in which a fire may originate.

(g) The furnishings for Types 1 and 2 stairways, and all elevator enclosures, shall be as set forth in § 72.05-55(c).

(h) In general, curved, spiral, or winding stairways will not be permitted. Relaxation from this requirement may be permitted, provided, in the opinion of the Commandant, the proposed stairway is equivalent with respect to safety and dimensions to the stairways covered by this section.

(i) For all types of stairways, the stairs, platforms, and landings shall be of sufficient strength to sustain a load of 100 pounds per square foot with a factor of safety of 4 based on the ultimate strength.

(j) The stringers, treads, and all platforms and landings of all Types 1, 2, and 3 stairways shall be of solid steel construction. Risers shall be of approved incombustible material.

(k) For all types of stairways, handrails shall be fitted on both sides of

the stairs. For stairways in excess of 66 inches in width, additional center handrails shall be provided. All handrails shall be fitted at a vertical height above the tread at its nosing of between 33 and 36 inches.

(l) For all types of stairways, the stair width shall be clear of all obstructions other than the handrails.

(m) Handrails and trim for all Types 1, 2, and 3 stairways shall be of approved "incombustible materials."

(n) For all types of stairways, there shall be no variation in the width of the stairs, the depth of the tread, or the height of the risers in any flight. Where variation in height of riser or depth of tread in different flights is necessary, such variations shall be minimized.

(o) For all types of stairways, the sum of the riser height and tread depth shall be at least 17 inches and not more than 18 inches. Types 1, 2, and 3 stairways having treads less than 10 inches in depth shall have a nosing of one inch or other means to provide additional room on the tread.

(p) All stairways shall be dimensioned in accordance with Table 72.05-20(p), depending upon the type of stairway and the number of persons served.

TABLE 72.05-20(p)

Type of stairway	Primary use	Maximum angle of inclination (degrees)	Minimum stair tread width, in inches, based upon number of persons served by the stairway—Number of persons						
			1-10	11-20	21-30	31-40	41-50	51-60	Over 60
1	Passenger or crew	40	28	30	32	34	36	40	44
2 or 3	Passenger	40	28	30	32	34	36	36	36
2 or 3	Crew	50	26	30	30	30	30	30	30
4	Passenger or embarkation route	45	26	30	30	30	30	30	30
4	Crew	55	24	24	24	24	24	24	24

(1) The maximum angle of inclination from the horizontal for any stairway shall be as given in Table 72.05-20(p).

(2) For all types of stairways, the minimum width shall be determined on a deck-by-deck basis. Except as further noted, on any particular deck, only those persons on that deck using the stairway are involved in the width determination. However, once a minimum required width has been estab-

lished at any one level, that width may not be reduced at any subsequent deck level in the direction of normal escape. This does not prohibit the use of stair widths exceeding the required minimum for any particular flight or flights.

(3) The various spaces shall be considered to have the number of persons in them as follows:

(i) Passenger staterooms—designed capacity.

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(ii) Crew staterooms—two-thirds designed capacity.

(iii) Theaters, dining halls, and similar spaces having fixed seating—maximum seating capacity.

(iv) Lounges, club rooms, etc.—1 person for every 20 square feet of deck area.

(v) Working spaces—normal operating capacity.

(4) Type 1 stairways shall be dimensioned on a deck-by-deck basis as described in the previous subparagraphs. In determining the number of persons using a Type 1 stairway, all persons within the Main Vertical Zone or Zones in question are assumed to be using Type 1 stairways. No consideration is given to any Type 2 or 3 stairways that may be available. If more than one Type 1 stairway serves a particular Main Vertical Zone, the persons shall be distributed between the stairways dependent upon the arrangements, and the stairways shall be dimensioned accordingly. If in the normal operation of the vessel, a Type 1 stairway is intended for a greater number of persons than given by the foregoing, the larger number shall be used.

(5) Types 2, 3, and 4 stairways shall be dimensioned on a deck-by-deck basis as described in this paragraph. In determining the number of persons using the stairways, the normal operation of the vessel shall be the determining factor. In this respect, if any particular stairway forms part of a normal debarkation route, the number of persons using the stairway for that purpose shall be considered.

(q) All types of stairways designed with a broken flight between any two decks shall conform to the additional requirements of this paragraph.

(1) Any interruption of the slope or change of direction of the stairway shall be accomplished by means of an intermediate landing of rectangular or nearly rectangular shape based on the actual dimensions of the stairs landing thereon.

(2) Each set of stairs of a broken flight shall be dimensioned independently, and shall conform to the minimum stair widths given in Table 72.05-20(p).

(r) Landings for stairways shall be provided in accordance with the applicable requirements of this paragraph.

(1) For all types of stairways, at the top and bottom of each flight of stairs, there shall be a clear landing having an area at least equal to the square of the actual stair tread width.

(2) For Type 1 stairways, there shall be provided within the enclosure at each deck level a landing having a minimum clear area in square feet, exclusive of the stairs, equal to 1.2 times the number of persons from that deck using the stairway.

(3) Where an aisle around a stairway is required due to the relationship of the flights, such aisle shall have a clear width at all points at least equal to the actual stair tread width.

(s) The total clear width of doors to stairways shall be as set forth in Table 72.05-20(s), and shall meet all of the other applicable requirements of this paragraph.

TABLE 72.05-20(s)

Type of stairway	Primary use	Minimum clear opening, in inches, of doors to stairways, based on number of persons served by doors—Number of persons (N)					
		1-10	11-20	21-30	31-40	41-50	Over 50
1	Passenger or crew	28	30	32	34	36	1 0.75 ¹
2 or 3	Passenger	28	30	32	34	36	3
2 or 3	Crew	28	30	30	30	30	3

¹ Obtain clear opening in inches by multiplying the number of persons served (N) by 0.75.

(1) The dimensioning of doors shall be based on the same fundamentals as described in paragraphs (p)(2) through (5) of this section for stair-

ways. However, the number of people involved for a particular door shall be determined from the arrangements, each door being calculated independent

ent of any other doors to the stairway at the same level.

(2) In no case shall a clear door width be less than 28 inches.

(3) On the Embarkation Deck, each Type 1 stairway shall provide at least 44 inches of exit door width to each side of the vessel. Exit may be provided directly to the weather or indirectly by passageways and/or corridors which lead to the weather.

§ 72.05-25 Doors, other than watertight.

(a) The general requirement for doors, other than watertight doors, are as follows:

(1) All doors shall be capable of operation from either side by 1 person.

(2) In public spaces, stairway enclosures, corridors, etc., all doors shall open in the direction of escape where practicable.

(3) If it is desired to use decorative doors in addition to those required, they shall be constructed of approved incombustible materials and shall not interfere with the normal operation of the required doors, and shall open in the same direction if the required doors are in a main avenue of escape.

(4) For the purpose of this subpart, all glass permitted in doors shall be at least ¼-inch thick. However, greater thickness may be required for strength purposes in certain locations. Except for hardwood doors permitted by paragraph (b)(8) of this section, all glass shall be fitted in steel or equivalent metal frames and shall be retained by steel or equivalent metal glazing beads or angles.

(5) Where wire-inserted glass is required, and the single wire type is employed, the strands shall run horizontally and shall be not more than 2 inches apart.

(6) Where hose ports are fitted, they shall be cut in the lower corner of the door on the side opposite the hinge so that if the hose is passed through the doorway when the door is open, it may be closed over the hose. The cut for the hose port should be approximately 6 inches square. A hinged or pivoted steel or equivalent metal cover shall be fitted in the cut, equipped with a bullet catch or similar method of fastening which will permit easy and

automatic operation of the hinged cover.

(7) Combustible veneers may be used in doors where permitted for, and subject to the same conditions as, the bulkheads in which the doors are hung.

(8) The locking of doors may be permitted, except as noted in § 72.10-20.

(b) Doors in "A" Class bulkheads shall meet the following requirements:

(1) Doors in bulkheads required to be Class A-60, A-30, or A-15 shall be of hollow steel or equivalent metal construction solidly filled with approved structural insulation capable of meeting the requirements for a Class A-15 bulkhead.

(2) Doors in bulkheads required to be Class A-0 shall be of solid or hollow steel or equivalent metal construction capable of meeting the requirements of a Class A-0 bulkhead.

(3) Doors shall have a latch with a minimum throw of ¼ inch which can be operated from either side of the door. Double swing doors, where permitted for the proper utility of the space, may have the latch normally inoperative.

(4) Except as noted in paragraph (b)(8) of this section, doors may be fitted with not more than 100 square inches of glass, which shall be of the wire inserted type.

(5) Vent grilles or louvers shall not be used in doors of this type.

(6) The bottoms of doors may be undercut not to exceed ¼ inch above the door sill or top of approved deck covering. Rugs, and carpets, shall not pass through doorways, but linoleum and similar coverings may do so.

(7) Door frames shall be of rigid construction, and shall provide at least a ½ inch door stop at the sides and top, except:

(i) Double doors capable of independent operation and latching may have a clearance between the doors not to exceed ¼ inch. However, if one door must always be closed first, a doorstop of at least ¼ inch shall be provided for the second door.

(ii) Double swing doors, where permitted, may have a maximum clearance of ¼ inch at the tops and sides.

(8) Doors opening out onto open decks shall either meet the applicable

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requirements of this paragraph, or they may be of hardwood having a minimum thickness of 1½ inches. In any case, no restriction as to the area of glass will be made for such doors insofar as this subpart is concerned. Only glass of the wire-inserted type may be fitted in such doors opening onto safety areas from accommodation spaces containing combustible type furniture and service, cargo, and machinery spaces.

(9) Doors in stairway enclosures and Main Vertical Zone bulkheads shall, in addition to meeting the requirements of this paragraph, also meet the following requirements:

(i) Doors, other than those which are normally locked, such as from staterooms, fan rooms, lockers, etc., shall be of the self-closing type capable of closing against a 3½ degree list, and such doors shall be numbered in accordance with § 78.47-35 of this subchapter.

(ii) All doors, except those that are kept normally closed, shall be of a type which are capable of release from the control station and from a position at the door. The release mechanism shall be so designed that the door will automatically close in the event of disruption to the control system; however, approved power operated watertight doors will be considered acceptable for this purpose. Holdback hooks, or other means of permanently holding the door open, not subject to control station release, will not be permitted. When double swing doors are permitted, they shall have a latch arrangement which is automatically engaged by the operation of the door release system.

(iii) Double doors shall be so arranged that either door may be closed and latched independently.

(iv) For additional requirements for stairway doors, see § 72.05-20(s).

(c) Doors in "B" Class bulkheads shall meet the following requirements:

(1) Doors may be of solid or hollow steel or equivalent metal construction or may be of steel or equivalent metal frame with glass panes or may be of approved incombustible materials of such construction as specifically approved by the Commandant.

(2) No restriction as to the area of glass will be made for such doors, but all glass shall be of the wire-inserted type.

(3) The lower half of such doors may contain vent grilles or louvers with a net area not to exceed 2 square feet.

(4) Doors shall have a latch with a minimum throw of ¾ inch which can be operated from either side of the door. Double swing doors, where permitted for the proper utility of the space, may have the latch normally inoperative.

(5) The bottoms of doors may be undercut not to exceed 1 inch above the door sill or top of approved deck covering. Rugs and carpets shall not pass through doorways but linoleum and similar covering may do so.

(6) Door frames shall be of rigid construction, and shall provide at least a ½ inch doorstop at the sides and top, except:

(i) Double doors capable of independent operation and latching may have a clearance between the doors not to exceed ¼ inch. However, if one door must always be closed first, a door stop of at least ½ inch shall be provided for the second door.

(ii) Double swing doors, where permitted, may have a maximum clearance of ¼ inch at the tops and sides.

(d) Doors in bulkheads required to be Class C shall be of approved incombustible materials.

§ 72.05-30 Windows and airports.

(a) For the purpose of this subpart, all glass in windows or airports shall be at least ¼ inch thick. However, greater thickness may be required for strength purposes in certain locations. All glass shall be fitted in steel or equivalent metal frames and shall be retained by steel or equivalent metal glazing beads or angles.

(b) Where wire-inserted glass is required, and the single wire type is employed, the strands shall run horizontally and shall be not more than 2 inches apart.

(c) Windows in Class B-0 bulkheads shall be fitted with wire inserted glass. Such windows opening onto passageways may not extend below the normal height of the storm rails.

(d) Windows in Class B-15 bulkheads shall be fitted with wire inserted glass. In addition, such windows shall be fitted with a suitable steel or equivalent metal shutter capable of being operated manually as well as automatically by means of a fusible link.

(e) Windows in interior "A" Class bulkheads shall be fitted with suitable steel or equivalent metal shutter capable of being operated manually as well as automatically from the control station by the same system used for the fire doors as noted in § 72.05-25(b)(9)(ii). The metal shutter shall be insulated to meet the applicable bulkhead requirements.

(f) Windows or air ports opening onto lifeboat embarkation or lowering spaces from service, cargo, or machinery spaces, or from control or accommodation spaces other than those containing only incombustible veneers and trim and fire resistant furnishings, shall be fitted with wire inserted glass. Other windows or air ports opening onto open decks or enclosed promenades need not have wire inserted glass.

(g) Skylights to spaces containing auxiliary internal combustion machinery having an aggregate horsepower of 1,000 or more, and to boiler and main enginerooms, shall be capable of being closed from outside the space. If glass is fitted in such skylights, it shall be of the wire inserted type. The glass panels shall be fitted with permanently attached shutters of steel or equivalent metal.

§ 72.05-35 Hatch covers and shifting boards.

(a) Wood hatch covers may be used between cargo spaces. Hatch covers in other locations shall meet the requirements for deck construction noted in Tables 72.05-10 (f) and (g).

(b) Tonnage openings in "A" Class bulkheads shall be closed by means of steel plates.

§ 72.05-40 Insulation, other than for structural fire protection.

(a) Any insulation installed for heat and comfort, refrigeration (including air conditioning), or for any other purpose, and all material incidental to its installation, shall be approved Incom-

combustible Materials. This paragraph shall not apply to such insulation installed in cargo spaces, refrigerated storerooms, individual refrigerator boxes, nor to pipe and machinery coverings or laggings within the machinery spaces.

§ 72.05-45 Paint.

(a) An excessive number of coats of paint will be discouraged unless non-combustible paint is used.

(b) Nitrocellulose or other highly flammable or noxious fume-producing paints or lacquers shall not be used.

§ 72.05-50 Ventilation.

(a) Where the term "duct" is used in this section, it shall include trunks, plenums, and any other type of ventilation piping, chambers, or duct work.

(b) Where automatic fire dampers are required, they shall be designed to operate at approximately 165 degrees F. for normal locations, and approximately 212 degrees F. for locations such as galleys. The dampers shall be so designed as to close against the anticipated draft in the duct. The damper shall be made accessible for periodic inspection by means of a hinged or bolted plate in the duct. The damper and the portion of duct containing the damper shall be constructed of at least 1/4 inch steel plate suitably stiffened. No insulation need be applied to the damper blade.

(c) Where ventilation ducts are required to meet bulkhead requirements, the space within the duct shall be considered to be the same as the space served by the ventilator, and the duct shall be insulated to meet the applicable requirements of Tables 72.05-10(d) and 72.05-10(e).

(d) All ventilation systems shall be designed, where practicable, so that all ducts leading to the various enclosures are kept within the main vertical zones. No duct may serve spaces in more than one main vertical zone.

(e) Where of necessity, ducts pass through main vertical zone bulkheads, automatic fire dampers shall be fitted adjacent to the bulkhead. The duct between the bulkhead and the damper shall meet the applicable bulkhead requirements. The damper shall be

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fitted on at least one side of the bulkhead with a visible indicator showing whether the damper is in the open or closed position. The indicator may be connected to the manual operating device rather than the damper blade so that it might show as being open when it had automatically closed, but could never be open if the indicator showed it to be closed. The damper shall be capable of being manually closed from both sides of the bulkhead. The operating positions for the damper shall be marked as required by § 78.47-53 of this subchapter.

(f) Vent ducts serving stairway enclosures shall serve no other spaces.

(g) Ventilation ducts serving cargo or main machinery spaces which pass through accommodation spaces or safety areas shall be fitted with an automatic fire damper adjacent to the point of entry. Between the bulkhead or deck and the damper, and in addition, on vertical ducts for a distance of 6 feet above the damper, the duct shall meet the applicable bulkhead requirements.

(h) Exhausts from galleys shall meet the applicable bulkhead requirements. In addition, an automatic damper shall be installed in exhaust ducts over frying vats, etc.

(i) In all ventilation systems, manually operated dampers or other suitable means shall be provided in accessible locations, outside the spaces served by the system, for shutting off the passage of air in the event of fire; however, no dampers shall be placed in exhaust ducts from film lockers or projection rooms.

(j) For information regarding controls of electrically powered ventilation systems, see subchapter J (Electrical Engineering) of this chapter.

§ 72.05-55 Furniture and furnishings.

(a) For the purpose of this subpart, rooms containing "fire resistant furnishings" will be considered to be those in which:

(1) All case furniture such as desks, wardrobes, dressing tables, bureaus, dressers, etc., shall be constructed entirely of approved incombustible materials; except that a combustible veneer not exceeding $\frac{1}{4}$ inch may be used on the top surface of such articles.

(2) All free standing furniture such as chairs, sofas, tables, etc., shall be constructed with frames of approved incombustible materials.

(3) All draperies shall be of approved fire resistant fabrics.

(4) All rugs and carpets shall be of wool or other material having equivalent fire resistive qualities.

(b) Waste paper baskets shall be constructed of approved incombustible materials with solid sides and bottoms.

(c) Passageways and stairway enclosures shall contain only fire resistant furnishings. In addition, all upholstery and padding of chairs, sofas, etc., in these areas, shall be of approved fire resistant materials.

§ 72.05-60 Motion picture projection and equipment.

(a) Inasmuch as only acetate or slow burning film may be used, projection rooms and special film stowage rooms are not required.

§ 72.05-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels of 100 gross tons and over, contracted for prior to May 26, 1965, on an international voyage; and vessels of 100 gross tons and over, contracted for on or after May 28, 1936, and prior to May 26, 1965, not on an international voyage; shall meet the following requirements:

(1) Existing structure, arrangements and materials previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction.

(2) The details shall be in general agreement with §§ 72.05-5 through 72.05-60.

(b) Vessels of 100 gross tons and over, contracted for prior to May 28, 1936, not on an international voyage shall meet the following requirements:

(1) Existing structure, arrangements and materials previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and are maintained

in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction.

(2) All vessels in ocean or coastwise service shall be fitted above the bulkhead deck with fire-resisting bulkheads and doors spaced not more than 131 feet apart which are capable of resisting the passage of flame for a period of at least 1 hour.

(3) All vessels with berth or state-room accommodations for 50 or more passengers shall be fitted with an approved automatic sprinkling system unless deemed unnecessary by the Commandant. This system shall be so installed as to protect all enclosed parts of the vessel accessible to passengers or crew while the vessel is being navigated, except cargo holds, machinery spaces, and when of fire-resisting construction, toilets, bathrooms, and spaces of similar construction. Where, in the case of a particular vessel, the Commandant does not consider the installation of an automatic water-sprinkling system necessary, such vessel shall be protected in such enclosed parts of the vessel as the Commandant shall deem necessary, with an automatic electric or pneumatic fire-detecting and alarm system, used singly or in combination, of a type approved by the Commandant.

(c) Vessels of less than 100 gross tons, contracted for prior to May 26, 1965, which carry more than 150 passengers, shall meet the following requirements:

(1) Existing structure, arrangements, and materials previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction.

(2) For such vessels, contracted for on or after November 19, 1952, and prior to May 26, 1965, on an international voyage, the details shall be in general agreement with §§ 72.05-5 through 72.05-60.

[CGFR 67-87, 32 FR 19180, Dec. 20, 1967]

Subpart 72.10—Means of Escape

§ 72.10-1 Application.

(a) The provisions of this subpart, with the exception of § 72.10-90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 72.10-90.

§ 72.10-5 Two means required.

(a) There shall be at least two means of escape from all general areas accessible to the passengers or where the crew may be quartered or normally employed. At least one of these two means of escape shall be independent of watertight doors. For stairway continuity and general requirements for stairways see § 72.05-20.

(b) Elevators shall not be considered as one of the required means of escape.

(c) Stairways serving only a space and a balcony to a space shall not be considered as one of the required means of escape.

[CGFR 65-50, 30 FR 16903, Dec. 30, 1965, as amended by CGD 72-104R, 37 FR 14233, July 18, 1972]

§ 72.10-10 Location.

(a) The two means of escape shall be as remote as practicable so as to minimize the possibility of one incident blocking both escapes.

§ 72.10-15 Vertical ladders not acceptable.

(a) Vertical ladders and deck scuttles shall not in general be considered satisfactory as one of the required means of escape. However, where it is demonstrated that the installation of a stairway would be impracticable, a vertical ladder may be used as the second means of escape.

§ 72.10-20 No means for locking door.

(a) No means shall be provided for locking doors giving access to either of the 2 required means of escape, except that crash doors or locking devices, capable of being easily forced in an emergency, may be employed provided a permanent and conspicuous notice to this effect is attached to both sides of the door. This paragraph shall not

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apply to outside doors to deckhouses where such doors are locked by key only and such key is under the control of one of the vessel's officers.

§ 72.10-25 Stairway size.

(a) Stairways shall be of sufficient width to satisfactorily accommodate the number of persons having access to such stairs for escape purposes.

§ 72.10-30 Dead end corridors.

(a) Dead end corridors, or the equivalent, more than 40 feet in length shall not be permitted.

§ 72.10-35 Public spaces.

(a) In all cases, public spaces having a deck area of over 300 square feet shall have at least two exits. Where practicable, these exits shall give egress to different corridors, rooms, or spaces to minimize the possibility of one incident blocking both exits.

§ 72.10-40 Access to lifeboats.

(a) The stairways, corridors, and doors shall be so arranged as to permit a ready and direct access to the various lifeboat embarkation areas.

§ 72.10-45 Weather deck communications.

(a) Vertical communication shall be provided between the various weather decks by means of permanent inclined ladders. Where ladders are for the exclusive use of the crew for rapid communication, and do not form part of a normal escape route, vertical ladders may be employed.

§ 72.10-90 Vessels contracted for prior to November 19, 1952.

(a) Existing arrangements previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original design provided that in no case will a greater departure from the standards of §§ 72.10-5 through 72.10-45 be permitted than presently exists. Nothing in this paragraph shall be construed as exempting any vessel from having 2 suitable means of escape from all main compartments which are accessible to the passengers

or where the crew are normally quartered or employed.

Subpart 72.15—Ventilation**§ 72.15-1 Application.**

(a) The provisions of this subpart with the exception of § 72.15-90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 72.15-90.

§ 72.15-5 Structural fire protection.

See § 72.05-50 for ventilation requirements pertaining to structural fire protection.

[CGD 72-104R, 37 FR 14233, July 18, 1972]

§ 72.15-10 Vessels using fuel having a flashpoint of 110 degrees F. or lower.

(a) Where liquid fuel having a flashpoint of 110 degrees F. or lower is used for main or auxiliary machinery or for starting purposes, the spaces containing such machinery or fuel tanks shall have natural supply and mechanical ventilation as required by this section.

(b) The requirements for the mechanical exhaust system shall be such as to assure the air changes as noted in Table 72.15-10(b), depending upon the size of the space.

TABLE 72.15-10(b)

Size of space, cubic feet		Minutes per air change
Over	Not over	
.....	500	2
500.....	1,000	3
1,000.....	1,500	4
1,500.....		5

(c) Exhaust blower motors shall be outside of the ducts, and if mounted in any compartment required to be ventilated by this section, shall be of the explosion proof type. Blower blades shall be non-sparking with reference to their housings.

(d) Exhaust blower switches shall be located outside of any space required to be ventilated by this section, and shall be of the type interlocked with the ignition switch so that the blower are started before the engine ignition

is switched on. A red warning sign at the switch shall state that the blowers shall be operated prior to starting the engines for a sufficient time to insure at least one complete change of air in the compartments.

(e) The area of the ducts shall be such as to limit the air velocity to a maximum of 2,000 feet per minute. Ducts may be of any shape, provided that in no case shall 1 dimension exceed twice the other.

(f) At least 2 inlet ducts shall be located at 1 end of the compartment and they shall extend to the lowest part of the compartment or bilge on each side. Similar exhaust ducts shall be led to the mechanical exhaust system from the lowest part of the compartment or bilge on each side of the compartment at the end opposite from that at which the inlet ducts are fitted.

(g) All ducts shall be constructed of non-ferrous metal or galvanized ferrous metal not less than No. 22 USSG, intact and gastight from end to end and shall be of substantial construction. The ducts shall lead as direct as possible and be properly fastened and supported.

(h) All supply ducts shall be provided with cowls or scoops having a free area not less than twice the required duct area. When the cowls or scoops are screened, the mouth area shall be increased to compensate for the area of the screen wire. Dampers shall not be fitted in the supply ducts. Cowls or scoops shall be kept open at all times except when the stress of weather is such as to endanger the vessel if the openings are not temporarily closed. Supply and exhaust openings shall not be located where the natural flow of air is unduly obstructed, or adjacent to possible sources of vapor ignition, nor shall they be so located that exhaust air may be taken into the supply vents.

§ 72.15-15 Ventilation for closed spaces.

(a) All enclosed spaces within the vessel shall be properly vented or ventilated. Means shall be provided to close off all vents and ventilators.

(b) Means shall be provided for stopping all fans in ventilation systems serving machinery and cargo spaces and for closing all doorways, ventila-

tors and annular spaces around funnels and other openings to such spaces, from outside these spaces, in case of fire.

(c) The ventilation of spaces which are "specially suitable for vehicles" shall be in accordance with the provisions of this paragraph. In addition, if vehicles are operated inside of enclosed spaces, the ventilation shall be in accordance with subpart 78.83 of this subchapter.

(1) Areas below the weather deck shall be provided with continuous pressure-positive ventilation at each level on which vehicles are transported.

(2) The quantity of ventilating air shall be not less than 1 cubic foot per minute per square foot of deck area.

(3) The ventilation shall be such as to prevent air stratification as well as to prevent accumulation of air pockets.

(4) An alarm system shall be provided which will indicate the loss of required ventilation. The alarm location shall be in a normally manned space acceptable to the Commandant.

[CGFR 66-50, 30 FR 16903, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15281, Dec. 6, 1966]

§ 72.15-20 Ventilation for crew quarters and passenger spaces.

(a) All crew and passenger spaces shall be adequately ventilated in a manner suitable to the purpose of the space.

(b) On vessels of 100 gross tons and over, except for such spaces as are so located that under all ordinary conditions of weather, windows, ports, skylights, etc., and doors to passageways can be kept open, all crew spaces shall be ventilated by a mechanical system, unless it can be shown that a natural system will provide adequate ventilation. However, vessels which trade regularly in the tropics shall, in general, be fitted with a mechanical ventilation system.

§ 72.15-90 Vessels contracted for prior to November 19, 1952.

(a) Existing arrangements previously approved will be considered satisfactory so long as they are maintained in

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good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original design provided that in no case will a greater departure from the standards of §§ 72.15-5 through 72.15-20 be permitted than presently exists.

Subpart 72.20—Accommodations for Officers and Crew

§ 72.20-1 Application.

The provisions of this subchapter, except § 72.20-90, apply to all vessels contracted for after November 18, 1952. Vessels contracted for before November 19, 1952 shall meet the requirements of § 72.20-90.

[CGD 72-104R, 37 FR 14233, July 18, 1972]

§ 72.20-5 Intent.

(a) It is the intent of this subpart that the accommodations provided for officers and crew on all vessels shall be securely constructed, properly lighted, heated, drained, ventilated, equipped, located, arranged, and where practicable, shall be insulated from undue noise and effluvia.

(b) The crew referred to in this subpart includes all persons, except the licensed officers, regularly employed on board any vessel. Where the requirements for the accommodations of licensed officers are not otherwise specified, they shall be at least equivalent to that indicated for the crew.

(c) For the purpose of this subpart, the term "crew spaces" shall include sleeping rooms, messrooms, recreational rooms, toilet and shower spaces, etc., which are intended for the exclusive use of the crew.

§ 72.20-10 Location of crew spaces.

(a) Crew spaces shall be located, where practicable, so that the maximum amount of fresh air and light are obtainable, having due regard to the service of the vessel and the requirements of other space users.

(b) Crew quarters shall not be located farther forward in a vessel than a vertical plane located at 5 percent of the vessel's length abaft the forward side of the stem at the designed summer load water line. However, for

vessels in other than ocean or coastwise service, this distance need not exceed 28 feet. For the purpose of this paragraph, the length shall be as defined in § 42.13-15 of subchapter E (Load Lines) of this chapter. No section of the deck of the crew spaces shall be below the deepest load line, except that in special cases, the Commandant may approve such an arrangement: *Provided*, That in no case shall the deck head of the crew space be below the deepest load line.

(c) Hawse pipes or chain pipes shall not pass through crew spaces.

(d) There shall be no direct communication, except through solid, close fitted doors or hatches between crew spaces and chain lockers, cargo or machinery spaces.

(e) There shall be no access vents or sounding tubes from fuel or cargo oil tanks opening into crew spaces, except that sounding tubes and access openings may be located in corridors.

(f) Where practicable, crew spaces shall be located entirely separate and independent of spaces allotted to passengers or licensed officers.

[CGFR 65-50, 30 FR 16903, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17483, Oct. 29, 1969]

§ 72.20-15 Construction.

(a) See subpart 72.05 for requirements on vessels of 100 gross tons and over or vessels of any tonnage on an international voyage pertaining to structural fire protection.

(b) All crew spaces are to be constructed in a manner suitable for the purpose for which they are intended. The bulkheads separating the crew space from cargo and machinery spaces, lamp and paint rooms, storerooms, drying rooms, washrooms, and toilet spaces shall be made odorproof where deemed necessary by the Commandant.

(c) Toilet spaces, except when provided as private or semiprivate facilities, shall be so built, fitted, and situated, that no odor from them will readily enter other crew spaces.

(d) Where shell or unsheathed weather decks form boundaries of crew spaces, suitable protective cover-

ings shall be applied to prevent formation or accumulation of moisture.

(e) Where crew spaces adjoining or are immediately above spaces such as galleys, machinery spaces or casings, donkey boilerrooms, etc., they shall be suitably protected from the heat by approved insulation.

(f) The interior sides and deck heads of crew spaces shall be covered with enamel, paint, or other material light in color.

(g) Crew spaces shall be properly drained where considered necessary.

(h) All washrooms and toilet rooms shall be properly drained and so constructed and arranged that they can be kept in a clean, workable, and sanitary condition. The scuppers shall be located in the lowest part of the spaces, due consideration being given to the average trim of the vessel.

§ 72.20-20 Sleeping accommodations.

(a) *Arrangements.* (1) Separate sleeping accommodations are to be provided for the deck, engine, and steward groups of the crew.

(2) Each watch of seamen, firemen, or similar ratings on duty in watches is to be provided with separate sleeping room or rooms unless the total space for accommodations makes this impracticable.

(3) Where practicable, each licensed officer shall be provided with a separate stateroom.

(b) *Size.* (1) Sleeping accommodations for the crew shall be divided into rooms, no one of which shall berth more than 4 persons, except that on passenger ships requiring a large personnel in the steward's department, rooms may be arranged to accommodate not more than 10 such persons.

(2) Each room shall be of such size that there are at least 30 square feet of deck area and a volume of at least 210 cubic feet for each person accommodated, except where more than four persons are berthed in one room, in which case the minimum may be 24 square feet of deck area and a volume of 168 cubic feet for each person. The clear head room shall be not less than 6 feet 3 inches. In measuring sleeping quarters allocated to crews of vessels, any equipment contained therein for the use of the occupants is not to be

deducted from the total volume or from the deck area.

(c) *Equipment.* (1) Each person shall have a separate berth and not more than 1 berth shall be placed above another. The berths shall have a framework of metal or other hard, smooth material not likely to corrode or harbor vermin, and shall be so arranged that they provide ample room for easy occupancy. The overall size of a berth shall not be less than 30 inches wide by 76 inches long, except by special permission of the Commandant. Where berths adjoin, they shall be divided by a partition not less than 18 inches in height. Where 2 tiers of berths are fitted, the bottom of the lower must not be less than 12 inches above the deck, and the bottom of the upper must not be less than 2 feet 6 inches both from the bottom of the lower and from the deck overhead. The berths shall not be obstructed by pipes, ventilating ducts, or other installations.

(2) A locker of metal or other hard smooth material shall be provided for each person accommodated in a room. Each locker shall be not less than 300 square inches in cross section area and 60 inches high. It shall be so placed as to be readily accessible. The interior of the locker shall be so arranged as to facilitate the proper stowage of clothes.

§ 72.20-25 Washrooms and toilet rooms.

(a) There shall be provided at least 1 toilet, 1 washbasin, and 1 shower or bathtub for each 8 members or portion thereof in the crew to be accommodated. The crew to be accommodated shall include all members who do not occupy rooms to which private or semiprivate facilities are attached.

(b) Under the following conditions, the toilet and washing facilities for the specific groups of the crew indicated shall be located in spaces separate from the facilities for other crewmembers; and shall be provided for that group in the ratios required by paragraph (a) of this section.

(1) The members of the engine department, where their number, exclusive of licensed officers, and others separately provided for, exceeds eight.

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(2) The members of the steward's department, exclusive of those separately provided for, where their number exceeds eight.

(c) The toilet rooms and washrooms shall be located convenient to the sleeping quarters of the crew to which they are allotted but shall not open directly into such quarters except when they are provided as private or semi-private facilities.

(d) All washbasins, showers, and bathtubs shall be equipped with proper plumbing, including hot and cold running water. Washbasins may be located in the crew sleeping quarters.

(e) The toilet rooms shall be separate from the washrooms and at least 1 washbasin shall be fitted in each toilet room, except where private or semiprivate facilities are provided and washbasins are installed in sleeping rooms.

(1) All toilets shall be installed with proper plumbing for flushing. Toilets shall be provided with seats of the open front type. Urinals may be fitted in toilet rooms, if desired, but no reduction in the required number of toilets will be made therefor.

(2) Where more than one toilet is located in a space or compartment, each toilet shall be separated by partitions, which shall be open at the top and bottom for ventilation and cleaning purposes.

[CGFR 65-50, 30 FR 16903, Dec. 30, 1965, as amended by CGD 73-119R, 38 FR 20449, Aug. 1, 1973]

§ 72.20-30 Messrooms.

(a) Messrooms shall be located as near to the galley or suitably equipped serving pantries as is practicable except where messroom is equipped with a steam table. The messrooms shall be of such size as to seat the number of persons normally scheduled to be eating at one time.

(b) Messrooms shall be properly equipped with tables, seats, and other necessary equipment and shall be so arranged as to permit easy access to each seat.

§ 72.20-35 Hospital space.

(a) Each vessel, which in the ordinary course of its trade makes voyages

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of more than 3 days duration between ports and which carries a crew of 12 or more, shall be provided with a hospital space. This space shall be situated with due regard to the comfort of the sick so that they may receive proper attention in all weathers.

(b) The hospital shall be suitably separated from other spaces and shall be used for the care of the sick and for no other purpose.

(c) The entrance shall be of such width and in such a position as to admit a stretcher case readily. Berths shall be of metal and may be in double tier, provided the upper berth is hinged and arranged to be secured clear of the lower berth when not in use. At least one berth shall be so arranged that it can be made accessible from both sides when necessary.

(d) The hospital shall be fitted with berths in the ratio of 1 berth to every 12 members of the crew or portion thereof who are not berthed in single occupancy rooms, but the number of berths need not exceed 6.

(e) The hospital shall have a toilet, washbasin, and bathtub or shower conveniently situated. Other necessary suitable equipment of such character as clothes locker, table, seat, etc., shall be provided.

§ 72.20-40 Other spaces.

(a) Sufficient facilities, depending upon the number of the crew, shall be provided where the crew may wash their own clothes. There shall be at least 1 tub or sink, fitted with the necessary plumbing, including hot and cold running water.

(b) Clothes drying facilities or space shall be provided for the needs of the crew.

(c) A space or spaces of adequate size shall be available on an open deck to which the crew has access when off duty.

(d) Recreation accommodations shall be provided. Where messrooms are used for this purpose, they shall be suitably planned.

§ 72.20-45 Lighting.

(a) All crew spaces shall be adequately lighted in accordance with the

requirements of subchapter J (Electrical Engineering) of this chapter.

(b) Berth lights shall be provided for each member of the crew.

§ 72.20-50 Heating.

(a) All crew spaces shall be adequately heated in a manner suitable to the purpose of the space.

(b) The heating system will be considered satisfactory if it is capable of maintaining a minimum temperature of 70 degrees F. under normal operating conditions without undue curtailment of the ventilation.

(c) Radiators and other heating apparatus shall be so placed, and where necessary shielded, as to avoid risk of fire or danger or discomfort to the occupants. Pipes leading to radiators or heating apparatus shall be lagged where the pipes create a hazard to persons occupying the space.

§ 72.20-55 Insect screens.

(a) Except in such areas as are considered to be insect free, provisions shall be made to protect the crew quarters against the admission of insects. This may be accomplished by the fitting of suitable screens to ventilating skylights, air ports, ventilators, and doors to unscreened spaces and the open deck, or by other methods. Insect screens are not required in air conditioned crew quarters for windows, air ports and doors that are normally kept closed.

[CGFR 66-33, 31 FR 15281, Dec. 6, 1966]

§ 72.20-90 Vessels contracted for prior to November 19, 1952.

(a) [Reserved]

(b) Vessels of 100 gross tons and over, contracted for prior to March 4, 1915, shall meet the requirements of this paragraph.

(1) Existing structure, arrangements, materials, and facilities, previously approved will be considered satisfactory so long as they are maintained in a suitable condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original construction provided that in no case will a greater departure from the standards of §§ 72.20-5

through 72.20-55 be permitted than presently exists.

(c) Vessels of 100 gross tons and over, contracted for on or after March 4, 1915, but prior to January 1, 1941, shall meet the requirements of this paragraph.

(1) Existing structure, arrangements, materials, and facilities, previously accepted or approved will be considered satisfactory so long as they are maintained in a suitable condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original construction.

(2) Where reasonable and practicable, a minimum of 1 toilet, shower, and washbasin shall be provided for each 10 members of the crew or fraction thereof.

(3) Crew spaces shall have a volume of at least 120 cubic feet and a deck area of at least 16 square feet for each person accommodated.

(4) Each crewmember shall have a separate berth, and berths may not be placed more than two high.

(5) Each vessel, which in the ordinary course of its trade makes a voyage of more than 3 days' duration between ports and which carries a crew of 12 or more persons, shall be provided with a suitable hospital space for the exclusive use of the sick or injured. Berths shall be provided in the ratio of 1 berth for each 12 members of the crew or fraction thereof, but the number of berths need not exceed 6.

(6) The crew spaces shall be securely constructed, properly lighted, heated, drained, ventilated, equipped, located, and arranged, and where practicable shall be insulated from undue noise and effluvia.

(d) Vessels of 100 gross tons and over, contracted for on or after January 1, 1941, but prior to November 19, 1952, shall meet the requirements of this paragraph.

(1) Existing structure, arrangements, materials, and facilities, previously accepted or approved will be considered satisfactory so long as they are maintained in a suitable condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and

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alterations may be made to the same standard as the original construction.

(2) Washrooms and toilet rooms:

(i) There shall be a minimum of one toilet, shower, and washbasin for each eight members of the crew or fraction thereof who are not accommodated in rooms having attached private or semiprivate facilities.

(ii) Separate facilities shall be provided for the engineroom, deck, or stewards' department when the number of crew in that department, exclusive of officers, exceeds eight.

(iii) Toilet rooms shall be separate from the washrooms. At least one washbasin shall be installed in each toilet room.

(iv) Toilets shall be provided with seats of the open front type. Urinals may be fitted in toilet rooms, if desired, but no reduction will be made in the required number of toilets.

(v) Washbasins, showers, and bathtubs if substituted for showers, shall be equipped with proper plumbing, including hot and cold running water.

(3) Crew spaces shall have a volume of at least 120 cubic feet and a deck area of at least 16 square feet for each person accommodated.

(4) Each crewmember shall have a separate berth, and berths may not be placed more than two high.

(5) Each vessel, which in the ordinary course of its trade makes a voyage of more than 3 days' duration between ports and which carries a crew of 12 or more persons, shall be provided with a suitable hospital space for the exclusive use of the sick or injured. Berths shall be provided in the ratio of 1 berth for each 12 members of the crew or fraction thereof, but the number of berths need not exceed 6.

(6) The crew spaces shall be securely constructed, properly lighted, heated, drained, ventilated, equipped, located, and arranged, and where practicable shall be insulated from undue noise and effluvia.

[CGFR 65-50, 30 FR 16903, Dec. 30, 1965, as amended by CGD 72-104R, 37 FR 14233, July 18, 1972]

Subpart 72.25—Passenger Accommodations

§ 72.25-1 Application.

(a) The provisions of this subpart shall apply to all vessels.

§ 72.25-5 Steerage passengers.

(a) Where the total area provided for the exclusive use of a class of passengers is less than 36 square feet per passenger, the provisions of the Steerage Passenger Act of August 2, 1882, as amended, 46 U.S.C. 151, which is administered and enforced by the U.S. Customs Service, shall be complied with, for any vessel engaged in a voyage from any port or place in the United States to any port or place in a foreign country or dominion (ports and places in foreign territory contiguous to the United States excepted) or conversely. For the purpose of computing the number of passengers, children under 1 year of age shall not be counted, and two children between the ages of one and eight shall be counted as one passenger.

§ 72.25-10 Location of passenger quarters.

(a) The deck forming the deckhead of passenger quarters between adjacent watertight bulkheads shall not be below the deepest load line at any point within the watertight compartment in question.

§ 72.25-15 Passenger accommodations for excursion boats, ferryboats, and passenger barges.

(a) Except as specifically excluded by this section, separate public toilet spaces shall be provided for male and female passengers with at least the minimum equipment in each based upon the number of passengers permitted to be carried as set forth in Table 72.25-15(a).

TABLE 72.25-15(a)

Number of passengers		Toilets	Wash-basins
Over	Not over		
.....	100	1	1
100	300	2	61
300	500	3	2
500	1,000	4	2
1,000	1,500	5	3

TABLE 72.25-15(a)—Continued

Number of passengers		Toilets	Wash-basins
Over	Not over		
1,500	2,000	6	3
2,000	2,500	7	4
2,500	3,000	8	4
3,000	3,500	9	5
3,500	4,000	10	5
4,000		(¹)	(¹)

¹ Additional facilities by extrapolation.

(b) In the men's spaces, urinals may be substituted for toilets, provided at least one-half the required toilets are fitted.

(c) On ferryboats and barges having a short run, passenger toilet facilities need not be fitted.

Subpart 72.30—Subdivision and Stability

SOURCE: CGD 79-023, 48 FR 51007, Nov. 4, 1983, unless otherwise noted.

§ 72.30-1 Application.

Each vessel must meet the applicable requirements in subchapter S of this chapter.

§ 72.30-5 Bulk grain cargoes.

Each vessel that carries grain in bulk must meet the requirements in Subpart 9^a 20 of this chapter.

Subpart 72.40—Rails and Guards

§ 72.40-1 Application.

(a) The provisions of this subpart, with the exception of § 72.40-90, shall apply to all vessels contracted for on or after July 1, 1969. Vessels contracted for prior to July 1, 1969, shall meet the requirements of § 72.40-90.

[CGFR 65-50, 30 FR 16903, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17483, Oct. 29, 1969]

§ 72.40-5 Where rails required.

(a) All passenger vessels shall have efficient guard rails or bulwarks on decks and bridges as follows: The height of rails or bulwarks shall be at least 39½ inches from the deck. At the peripheries of the freeboard and superstructure decks and at the peripheries of all decks accessible to passen-

gers, rails shall be in at least three courses including the top. The opening below the lowest course shall not be more than 9 inches. The courses shall not be more than 15 inches apart. In the case of ships with rounded gun-wales the guard rail supports shall be placed on the flat of the deck. On other decks and bridges the rails shall be in at least two courses, including the top, approximately evenly spaced.

(b) Where the height of the rails interferes with the business of the vessel, as in the case of a sport fishing vessel, other arrangements may be specifically approved by the Commandant. However, in general, the effective rail or bulwark height above the deck on which the passengers stand shall be at least 30 inches.

(c) On the passenger decks of ferryboats, excursion vessels, and vessels of a similar type, the space below the top of the rail shall be fitted with suitable wire mesh or the equivalent. Depending upon the type of construction, the lower rail courses may not be required.

(d) Where it can be shown to the satisfaction of the Commandant that a vessel is engaged exclusively in voyages of a sheltered nature, the provisions of paragraph (a) of this section may be relaxed.

[CGFR 69-72, 34 FR 17483, Oct. 29, 1969]

§ 72.40-10 Storm rails.

(a) Suitable storm rails shall be installed in all passageways and at the deckhouse sides where passengers or crew might have normal access. Storm rails shall be installed on both sides of passageways which are 6 feet or more in width.

§ 72.40-15 Vehicular ferries.

(a) On vehicular ferries, suitable chains, cables, or other barriers shall be installed at the ends of the vehicle runways. In addition, suitable gates, rails, or other devices shall be installed as a continuation of the regularly required rails.

§ 72.40-20 Guards in dangerous places.

(a) Suitable covers, guards, or rails shall be installed in way of all exposed and dangerous places such as gears, machinery, etc.

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§ 72.40-90 Vessels contracted for prior to July 1, 1969.

(a) Passenger vessels contracted for prior to July 1, 1969, assigned a deeper load line under part 42 of subchapter E (Load Lines) of this chapter shall have efficient guard rails or bulwarks as required by § 72.40-5. Otherwise, existing structure, arrangements, materials, and facilities previously approved will be considered satisfactory so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original construction provided that in no case will greater departure from the standards of §§ 72.40-5 through 72.40-20 be permitted than presently exists.

[CGFR 69-72, 34 FR 17483, Oct. 29, 1969]

PART 75—LIFESAVING EQUIPMENT

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Subpart 75.10—Lifeboats, Liferrafts, Lifeboats, and Buoyant Apparatus

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Subpart 75.15—Stowage and Marking of Lifeboats, Liferrafts, Lifeboats, and Buoyant Apparatus

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- 75.15-5 General.
- 75.15-10 Stowage.
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Subpart 75.20—Equipment for Lifeboats, Liferrafts, Lifeboats, and Buoyant Apparatus

- 75.20-1 Application.
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- 75.20-10 Required equipment for lifeboats.
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Subpart 75.90—Ship's Distress Signals

- 75.90-1 Application.
- 75.90-5 Vessels in ocean or coastwise service.
- 75.90-10 Vessels in Great Lakes service.

AUTHORITY: 48 U.S.C. 3306; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16926, Dec. 30, 1965, unless otherwise noted.

Subpart 75.01—Application

§ 75.01-1 Details of application.

Except as specifically noted, the provisions of this part shall apply to all vessels.

§ 75.01-3 Incorporation by reference.

(a) Certain materials are incorporated by reference into this part with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a). To enforce any edition other than the one listed in paragraph (b) of this section, notice of the change must be published in the **FEDERAL REGISTER** and the material made available to the public. All approved material is on file at the Office of the Federal Register, Washington, DC 20408, and at the U.S. Coast Guard, Marine Technical and Hazardous Materials Division, 2100 Second Street SW., Washington, DC 20593-0001, and is available from the address indicated in paragraph (b).

(b) The material approved for incorporation by reference in this part, and the sections affected is:

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, PA 19103.

ASTM F1014-1986 Standard Specification for Flashlights on Vessels.
Sections affected—75.20-15(j).

NOTE: All other documents referenced in this part are still in effect.

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[CGD 82-042, 53 FR 17704, May 18, 1988]

Subpart 75.05—General Provisions Pertaining to Lifesaving Equipment

§ 75.05-1 Equipment of an approved type.

(a) Where equipment in this part is required to be of an approved type, such equipment requires the specific approval of the Commandant. Such approvals are published in the *FEDERAL REGISTER*, and in addition, are contained in Coast Guard publication CG-190, "Equipment Lists."

(b) Specifications for many of the items required to be of an approved type have been promulgated and are contained in subchapter Q (Specifications) of this chapter. In general, such specifications are of interest only to the manufacturer of specific items of equipment.

§ 75.05-5 Equipment installed but not required.

Where items of lifesaving equipment are not required, but are installed, such equipment and its installation shall meet the requirements of this part.

§ 75.05-10 Primary lifesaving equipment.

(a) The term *primary lifesaving equipment* means a lifeboat or an acceptable substitute. Life preservers and ring life buoys are not included in this definition of "primary lifesaving equipment."

Subpart 75.10—Lifeboats, Liferafts, Lifefloats, and Buoyant Apparatus

§ 75.10-1 Application.

(a) Except as otherwise provided in this section, the provisions of this subpart shall apply to all vessels contracted for on or after May 26, 1965.

(b) Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.10-90.

§ 75.10-5 Type of lifeboats, liferafts, lifefloats, and buoyant apparatus required.

(a) *Lifeboats.* (1) All lifeboats shall be of an approved type, constructed in accordance with subpart 160.035 of subchapter Q (Specifications) of this chapter.

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(2) All lifeboats certified to carry 60 or more, but not over 100, persons shall be either motor lifeboats or shall be fitted with an approved type of hand-propelling gear. Lifeboats carrying more than 100 persons shall be motor lifeboats.

(3) A Class 1 motor lifeboat is one that is fitted with a compression ignition engine, is capable of being readily started in all conditions, and has sufficient fuel for 24 hours continuous operation. The speed ahead in smooth water when loaded with its full complement of persons and equipment shall be at least 6 knots.

(4) A Class 2 motor lifeboat shall meet the Class 1 requirements, and in addition, shall be fitted with a search light constructed in accordance with subpart 161.006 of subchapter Q (Specifications) of this chapter.

(5) A Class 3 motor lifeboat shall meet the Class 2 requirements, and in addition, shall be fitted with a radio cabin and a radio installation complying with requirements of the Federal Communications Commission.

(6) All lifeboats, except those installed on vessels in river service, shall be fitted with suitable disengaging apparatus consisting of fixed hooks in the lifeboat or mechanical disengaging apparatus. Mechanical disengaging apparatus, if fitted, shall be of an approved type, constructed in accordance with subpart 160.033 of subchapter Q (Specifications) of this chapter.

(i) All lifeboats installed on ocean, coastwise, or Great Lakes vessels of over 3,000 gross tons shall be fitted with mechanical disengaging apparatus so arranged as to make it possible for the lifeboats to be launched with their full complement of persons and equipment while such vessels are underway or stopped, and for both ends of the lifeboat to be released simultaneously, under tension or not, by one person. Simultaneous release shall be effected by partially rotating a shaft which shall be continuous and extend from points of contact with the hooks.

(ii) All lifeboats installed on any particular vessel shall be fitted with the same type of releasing gear.

(b) *Liferafts.* (1) All rigid type liferafts shall be of an approved type, constructed in accordance with sub-

part 160.018 of subchapter Q (Specifications) of this chapter. Rigid type liferafts shall not be used as required equipment on vessels on an international voyage.

(2) Type A liferafts shall be stowed on the standard liferaft skids required by § 75.15-10(c)(1) unless specifically noted otherwise.

(3) An inflatable liferaft must meet the following:

(i) The liferaft must be approved under subpart 160.051 of this chapter.

(ii) Except as required in paragraph (b)(3)(iii) of this section, the liferaft must be marked in accordance with § 160.051-8 of this chapter.

(iii) After January 1, 1976 on vessels certificated for Great Lakes service and after January 1, 1980 on other certificated vessels, the liferaft must show on or near the liferaft's nameplate, and the liferaft's container must show on or near the plate, marking approved by a Coast Guard Inspector that is—

(A) An approval number consisting of "160.051/" followed by a number that is greater than 49 followed by a revision number (e.g. 160.051/50/1); or

(B) An approval number consisting of "160.051/" followed by a number that is smaller than 50 that is followed by a revision number (e.g. 160.051/48/1), the words "MOD. TEMP.", a Coast Guard Inspector's initials, and the date that an inspector found that the liferaft met § 160.051-5(c)(4) of this chapter.

(4) On vessels on an international voyage, each inflatable liferaft shall have a carrying capacity of not less than 6 nor more than 25 persons.

(c) *Lifeboats*. (1) All lifeboats shall be of an approved type, constructed in accordance with subpart 160.027 of subchapter Q (Specifications) of this chapter.

(d) *Buoyant apparatus*. (1) All buoyant apparatus shall be of an approved type, constructed in accordance with subpart 160.010 of subchapter Q (Specifications) of this chapter.

(e) *Rescue boat*. (1) In general, a suitable rescue boat shall be a small light weight boat of rigid construction, with built-in buoyancy and capable of being readily launched and easily maneuvered. Also it shall be of adequate

proportion to permit taking an unconscious person on board without capsizing. A rescue boat and its installation shall be acceptable to the Officer in Charge, Marine Inspection, as suitable for the rescue of persons accidentally falling over the side, or for similar emergency purposes. The size, shape, installation, and other factors of suitability will be determined with due consideration of the size, arrangement, intended service and crew requirements of the vessel on which it is to be installed.

(2) For protected waters, a rescue boat, constructed in accordance with subpart 160.056 of subchapter Q (Specifications) of this chapter, is acceptable in meeting the intent of this paragraph. For exposed waters, a more seaworthy rescue boat may be required, but in no case shall more than one approved lifeboat suitable for rescue work be required.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19985, Dec. 28, 1968; CGD 75-040, 40 FR 58454, Dec. 17, 1975]

§ 75.10-10 Requirements for vessels in ocean service.

(a) *Lifeboats*. (1) Except as further noted in this paragraph, all vessels shall be provided with sufficient lifeboats on each side of such aggregate capacity as will accommodate half the total number of persons on board.

(2) Lifeboats shall be not less than 24 feet in length, except where owing to size of the vessel, or for other reasons, the Commandant considers the carriage of such lifeboats to be unreasonable or impracticable. However, in no case shall lifeboats be less than 16 feet in length.

(3) *Emergency lifeboats*: One of the lifeboats on each side of the vessel shall be of suitable size and design for performing emergency work at sea. Such lifeboats shall be not more than 28 feet in length and the ratio of length to beam shall be not less than 3.3. They shall be kept ready for immediate use while the vessel is at sea.

(4) All vessels shall be provided with the minimum number of motor lifeboats as shown in Table 75.10-10(a).

(4). In those cases where at least two

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motor lifeboats are required, these shall be one on each side. On vessels of over 2,500 gross tons which in the normal course of their voyage are at any point 200 miles offshore, if a Class 3 motor lifeboat is not installed, an approved portable radio unit shall be carried by the vessel in addition to the one required by § 75.55-1.

TABLE 75.10-10(a)(4)

Total number of persons carried		Minimum number Class 2 motor lifeboats	Minimum number Class 3 motor lifeboats
Over	Not over		
	30	1	
30	199	2	
199	1,500	1	1
1,500			2

(5) On vessels on an international voyage other than a short international voyage, the Commandant may permit liferafts to be substituted for lifeboats required by paragraph (a)(1) of this section to the extent that there shall never be less than sufficient lifeboats on each side of the vessel to accommodate 37½ percent of the total number of persons on board. In such cases, there shall be provided approved launching devices for these liferafts in accordance with subpart 75.27.

(6) This subparagraph applies to a vessel on a short international voyage. If compliance with paragraph (a)(1) of this section is impracticable, the Commandant may relax the requirement to the extent permitted by Regulations 27 and 28 of chapter III of the International Convention for the Safety of Life at Sea, 1974, as long as the vessel complies with § 171.068 of this chapter.

(7) Vessels not exceeding 150 feet in length which are under 300 gross tons engaged exclusively in the business of transporting passengers to or from operational sites of exploration, development, removal or storage of resources, or related activities thereof, on the continental shelf of the United States in the Gulf of Mexico, in the Atlantic Ocean south of the thirty-third parallel of north latitude, and in the Pacific Ocean, may use approved lifefloats in lieu of lifeboats if a suitable

rescue boat is carried and is adequately installed. For the purpose of this paragraph the word "passengers" is defined as meaning industry personnel engaged exclusively in the exploration, development, removal and storage of resources, or related activities thereof, on the continental shelf of the United States who are required by the nature of their work to ride such vessels. Vessels subject to this subparagraph may also carry supplies, equipment, and cargo.

(8) For vessels not on an international voyage, inflatable liferafts may be substituted for lifeboats on certain vessels in accordance with § 75.10-25.

(b) *Liferafts, lifefloats, and buoyant apparatus.* (1) Vessels on an international voyage other than a short international voyage shall carry, in addition to any other required equipment, approved liferafts with an aggregate capacity of at least 25 percent of the persons on board together with approved buoyant apparatus with an aggregate capacity of at least 3 percent of the persons on board. However, if the factor of subdivision of the vessel is 0.33 or less, liferafts are not required, but approved buoyant apparatus shall be provided with an aggregate capacity of at least 25 percent of the persons on board.

(2) Vessels on a short international voyage shall carry, in addition to any other required equipment, approved liferafts with an aggregate capacity at least equal to 10 percent of the capacity of the lifeboats. In addition, there shall be carried sufficient approved buoyant apparatus so that the aggregate capacity of the buoyant apparatus and liferafts is at least equal to 25 percent of the persons on board.

(3) All vessels not on an international voyage shall be provided with buoyant apparatus sufficient to accommodate 25 percent of all persons on board. Lifefloats not weighing more than 400 pounds or Type A liferafts may be substituted for the buoyant apparatus required.

(4) Inflatable liferafts may be substituted for liferafts, lifefloats and buoyant apparatus on certain vessels not on an international voyage in accordance with § 75.10-25.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19985, Dec. 28, 1968; CGD 79-023, 48 FR 51007, Nov. 4, 1983]

§ 75.10-15 Requirements for vessels in coastwise service.

(a) Except as further modified by paragraphs (b) and (d) of this section, all other vessels to which this section pertains shall be provided with sufficient lifeboats and Type A liferafts to accommodate all persons on board. Not less than 75 percent of the total capacity shall be in lifeboats and the remainder may be in liferafts. Such lifeboats shall have a length of at least 16 feet unless otherwise specifically permitted by the Officer in Charge, Marine Inspection, in cases where the crew is insufficient to properly handle lifeboats of such size or where there is insufficient space to properly stow such lifeboats.

(b) In the case of motor vessels of less than 300 gross tons and, if in the opinion of the Commandant it is unreasonable or impracticable to meet the requirements of paragraph (a) of this section, due to the size and arrangement of the vessel and its intended service, the Commandant may prescribe the size, capacity, and number of lifeboats, or other boats of suitable design and construction, liferafts, lifeboats, and/or buoyant apparatus to be carried as in his opinion is reasonable and practicable. In any case, there shall be sufficient total capacity for all persons on board.

(c) Inflatable liferafts may be substituted for lifeboats, liferafts, lifeboats and buoyant apparatus on certain vessels in accordance with § 75.10-25.

(d) Vessels engaged on international voyages shall meet the applicable requirements of § 75.10-10.

§ 75.10-20 Requirements for vessels in Great Lakes; lakes, bays and sounds; or river service.

(a) *General.* All vessels other than ferryboats and passenger barges shall

be provided with lifeboats, liferafts, and lifeboats as required by Table 75.10-20(a), except as specifically noted in this paragraph.

(1) [Reserved]

(2) In the case of a motor vessel in Great Lakes service of less than 300 gross tons, if in the opinion of the Commandant it is unreasonable or impracticable to install the lifeboats, liferafts, or other equipment required by Table 75.10-20(a) due to the size and arrangement of the vessel and its intended service, the Commandant may prescribe the size, capacity, and number of lifeboats or other boats of suitable design and construction, lifeboats, and/or life floats to be carried as in his opinion is reasonable and practicable. In any case, there shall be at least one lifeboat or other suitable boat, and there shall be sufficient total capacity for the percentage of all persons on board required to be accommodated by Table 75.10-20(a).

(3) In the case of vessels of less than 300 gross tons in lakes, bays, sounds, or river service, if in the opinion of the Commandant it is unreasonable or impracticable to install the lifeboats, liferafts, or other equipment required by Table 75.10-20(a) due to the size and arrangement of the vessel and its intended service, the Commandant may prescribe the size, capacity, and number of lifeboats or other boats of suitable design and construction, liferafts, and/or lifeboats to be carried as in his opinion is reasonable and practicable. In any case there shall be at least one lifeboat or other suitable boat, and there shall be sufficient total capacity for the percentage of all persons on board required to be accommodated by Table 75.10-20(a).

(4) Inflatable liferafts may be substituted for lifeboats, liferafts, lifeboats and buoyant apparatus on certain vessels in accordance with § 75.10-25.

(5) Vessels engaged on short international voyages shall meet applicable requirements of § 75.10-10.

- * Vessels of 200 gross tons and upward shall have 1 working boat with lifeline attached, properly supplied with oars and painter, and kept in good condition at all times and ready for immediate use, in addition to the lifeboats required.
- * Vessels of 50 gross tons and upward in river service shall have 1 working boat with lifeline attached, properly supplied with oars and painter, and kept in good condition at all times and ready for immediate use, in addition to any lifeboats required.
- * At least 50 percent of the lifeboats shall have a capacity of more than 15 persons each.
- * Vessels of 300 gross tons and over shall have 1 fully equipped Type A or Type B lifeboat which shall be stowed (not necessarily on skids) in such a manner that it will float clear in the event of sinking of the vessel. On all vessels of 300 gross tons and over the lifeboat shall be marked with the vessel's name and capacity.
- * Approved lifeboats may be substituted for lifeboats on vessels during the interval between May 15 and September 15 in any 1 year, both dates inclusive.
- * Approved lifeboats may be substituted for lifeboats on vessels operated south of the thirty-third parallel of north latitude, and on vessels operated north of the thirty-third parallel of north latitude during the interval between the 15th day of May to the 15th day of October, in any 1 year, both dates inclusive.
- * Approved lifeboats may be substituted for lifeboats.

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(b) *Ferryboats.* (1) Except as otherwise provided in this paragraph, all ferryboats of 50 gross tons and over shall be equipped with lifeboats and liferafts in accordance with Table 75.10-20(b)(1).

TABLE 75.10-20(b)(1)

Size of ferryboat in gross tons		Cubic feet of lifeboatage required ¹
Over	Not over	
	150	60
	300	120
150	600	240
300		360
600		

¹For purposes of determining lifeboat capacity in persons for use in substituting inflatable liferafts in accordance with substitutions permitted by § 75.10-25, allow 10 cubic feet of lifeboatage per person.

²One-half of the required lifeboatage may be supplied by liferafts of Type A or B.

(2) [Reserved]

(3) Inflatable liferafts may be substituted for lifeboats, liferafts, lifeboats and buoyant apparatus on certain vessels in accordance with § 75.10-25.

(4) Ferryboats engaged on short international voyages shall meet the applicable requirements of § 75.10-10.

(c) *Passenger barges.* (1) Passenger barges shall be provided with lifeboats or other boats of suitable design and construction of a capacity in the same proportion to the number of persons carried as is required by Table 75.10-20(a).

(2) Passenger barges engaged in excursions shall be provided with 2 lifeboats or other boats of suitable design and construction of not less than 60 cubic feet capacity each.

(3) Inflatable liferafts may be substituted for lifeboats, liferafts, lifeboats and buoyant apparatus on certain vessels in accordance with § 75.10-25.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15281, Dec. 6, 1966; CGD 72-104R, 37 FR 14233, July 18, 1972]

§ 75.10-25 Inflatable liferafts as an alternate for lifeboats, other liferafts, lifeboats, and buoyant apparatus on certain vessels not on international voyage.

(a)(1) On all vessels inflatable liferafts may be permitted as substitutes for other types of liferafts, lifeboats

and buoyant apparatus wherever they may be required.

(2) The capacity of inflatable liferafts carried in place of other liferafts, lifeboats, and buoyant apparatus shall be at least equivalent to that required of the equipment for which substitution is made.

(3) The substitution of inflatable liferafts shall not be made without prior approval of the Officer in Charge, Marine Inspection.

(b) On all vessels less than 3,000 gross tons the substitution of inflatable liferafts for lifeboats may be permitted as follows:

(1)(i) On all vessels under 500 gross tons, inflatable liferafts may be substituted for all required lifeboats.

(ii) The total capacity of the inflatable liferafts shall be at least equal to the total number of persons that the lifeboats would have been required to accommodate. Partial substitution is permissible provided the aggregate lifeboat and inflatable liferaft capacity is sufficient to accommodate the required number of persons, as indicated above.

(iii) Where substitution of inflatable liferafts is made, a suitable rescue boat shall be provided. In the case of partial substitution, a lifeboat may serve as the rescue boat.

(2)(i) On all vessels of 500 gross tons and upwards to 1,600 gross tons, inflatable liferafts may be substituted for all required lifeboats provided two approved lifeboats of a size acceptable to the Officer in Charge, Marine Inspection, suitable for rescue purposes, one on each side, are installed.

(ii) The aggregate lifeboats and inflatable liferaft capacity shall be at least equal to the total number of persons that the lifeboats would have been required to accommodate.

(iii) The launching arrangement and location of the two lifeboats to be used as rescue boats shall be such that they can be readily launched and shall be to the satisfaction of the Officer in Charge, Marine Inspection.

(3)(i) On all vessels of 1,600 gross tons and upwards to 3,000 gross tons, inflatable liferafts may be substituted for all except two of the required lifeboats. These lifeboats shall be of a size acceptable to the Officer in Charge.

Marine Inspection, and shall be suitable for rescue purposes. In all cases, two approved lifeboats, one on each side, shall be provided.

(ii) The aggregate lifeboat and inflatable liferaft capacity shall be at least equal to the total number of persons that the lifeboats, for which substitutions are made plus those remaining on board, would have been required to accommodate.

(4) The substitution of inflatable liferafts for lifeboats shall not be made without prior approval of the Officer in Charge, Marine Inspection.

(c) The Commandant may give special consideration to the substitution of approved inflatable liferafts for required lifeboats on vessels of 3,000 gross tons and over.

§ 75.10-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 75.10-5 through 75.10-25 shall be complied with insofar as the number and general type of lifesaving equipment is concerned. Existing items of lifesaving equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 75.10-5 through 75.10-25 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be permitted to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable specifications or requirements in this part.

(2) Vessels certificated for ocean service may comply with this subparagraph in lieu of § 75.10-10(a)(4). In this respect, vessels with 13 or less lifeboats shall have at least one motor lifeboat; vessels with over 13 but not over 19 lifeboats shall have 2 motor lifeboats, one of which shall have a searchlight and radio cabin; vessels with over 19 lifeboats shall have 2 motor lifeboats, both of which shall have a searchlight and radio cabin. If

a vessel with 13 or less lifeboats is of over 2,500 gross tons and in the normal course of its voyage is at any point 200 miles offshore, the motor lifeboat shall be fitted with a radio cabin, or alternately, an approved portable radio unit shall be carried by the vessel in addition to that required by § 75.55-1. Existing motor lifeboat installations with spark ignition engines may be retained, but replacements shall meet current specifications.

(3) The substitution of liferafts for lifeboats permitted by § 75.10-10(a) (5) and (6) shall not apply.

(4) On vessels of over 3,000 gross tons certificated for ocean, coastwise, or Great Lakes service, all replacements of disengaging apparatus shall meet the requirements of § 75.10-5(a) (6)(i). On all other vessels in any service, all of the lifeboats on a particular vessel shall be fitted with the same type of disengaging apparatus.

(5) Vessels certificated for coastwise service the keels of which were laid prior to July 2, 1915, during the interval between May 15 and September 15 in any one year, both dates inclusive, shall have sufficient lifeboats, liferafts, or buoyant apparatus to accommodate all persons on board, not more than 30 percent of which may be in buoyant apparatus and not more than a total of 65 percent may be in liferafts and buoyant apparatus.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15282, Dec. 6, 1966]

Subpart 75.15—Stowage and Marking of Lifeboats, Liferafts, Lifefloats, and Buoyant Apparatus

§ 75.15-1 Application.

(a) The provisions of this subpart, with the exception of § 75.15-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.15-90.

§ 75.15-5 General.

(a) The lifeboats, liferafts, lifefloats, and buoyant apparatus shall be readily available in case of emergency, and shall be kept in good working order

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and available for immediate use at all times when the vessel is being navigated and, insofar as reasonable and practicable, while the vessel is not being navigated. The emergency lifeboats required by § 75.10-10(a)(3) shall have their sea painters passed along forward on the vessel when at sea.

(b) The decks on which lifeboats, liferafts, lifeboats, and buoyant apparatus are carried shall be kept clear of freight or any other obstructions which would interfere with the immediate launching of the lifesaving appliance.

§ 75.15-10 Stowage.

(a) Lifeboats, liferafts, lifeboats, and buoyant apparatus shall be stowed in such a manner that:

(1) They are capable of being launched in the shortest possible time.

(2) They shall not impede the launching or handling of other lifesaving appliances.

(3) They shall not impede the marshalling of persons at the embarkation stations, or their embarkation.

(4) They shall be capable of being put in the water safely and rapidly even under unfavorable conditions of list and trim.

(b) Lifeboat stowage shall be as follows:

(1) Every lifeboat shall be attached to a separate set of davits.

(2) Suitable access to the lifeboats shall be provided to enable the crew to prepare the lifeboats for launching.

(3) Lifeboats shall be so stowed that embarkation into them may be made rapidly and in good order.

(4) Lifeboats shall not be stowed in the bows of the vessel nor as far aft as to be endangered by the propellers or overhang of the stern.

(5) Lifeboats shall be so stowed that it shall not be necessary to lift them in order to swing out the davits.

(6) Lifeboats may be stowed on more than one deck, provided proper measures are taken to prevent lifeboats on a lower deck being fouled by those stowed on a deck above.

(7) Means shall be provided for bringing the lifeboats against the ship's side and holding them there so that persons may be safely embarked.

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(8) Vessels in ocean or coastwise service shall be fitted with skates or other suitable means to facilitate launching against an adverse list of up to 15 degrees. However, skates may be dispensed with if, in the opinion of the Commandant, the arrangements are such as to insure that the lifeboats can be satisfactorily launched without such skates.

(9) Ocean and coastwise vessels fitted with radial davits shall, when the weather permits, have one of the lifeboats on each side swung out while at sea, gripped in to a boom or rail, and ready for immediate use.

(10) On vessels in ocean and coastwise service, where applicable, means shall be provided outside the machinery space to prevent the discharge of water into the lifeboats while they are being lowered. This shall consist of baffles to deflect the water down the vessel's side, or reach rods, or other means to close the discharge openings.

(c) Liferaft stowage shall be as follows:

(1) Liferafts for which approved launching devices are required shall be distributed equally on each side of the ship and shall be stowed so as to be readily accessible to the launching device which serves them. They shall not be stowed in the bows of the vessel nor as far aft as to be endangered by the propellers or overhang of the stern. Such liferafts shall be capable of being put into the water loaded with their full complement of persons and equipment even with unfavorable conditions of trim and a list of 15 degrees either way.

(2) Means shall be provided outside the machinery space to prevent discharge of water into liferafts launched at fixed positions or from approved launching devices.

(3) The liferafts for which approved launching devices are not required shall be capable of being launched even with unfavorable conditions of trim and a list of 15 degrees either way.

(4) On vessels fitted with approved devices for launching liferafts, all liferafts shall be of a size and type which is capable of being launched from such devices.

(5) Type A liferafts shall be stowed on standard skids constructed in accordance with subpart 160.042 of subchapter Q (Specifications) of this chapter.

(6) Type B liferafts shall be stowed in such a manner that they may be readily launched.

(7) The additional liferaft required on Great Lakes vessels by Table 75.10-20(a) shall be stowed in such a manner that it will float clear in the event of sinking of the vessel. The requirements of the other subparagraphs in this paragraph need not be complied with for such liferaft.

(8) Inflatable liferafts shall be stowed in such a manner that they will float free in the event of the vessel sinking. Stowage and launching arrangements will be to the satisfaction of the Officer in Charge, Marine Inspection.

(d) Each life float and buoyant apparatus must be secured to the vessel by a painter and a float-free link.

(1) The float-free link must be—

(i) Certified to meet subpart 160.073 of this chapter,

(ii) Of proper strength for the size of the life float or buoyant apparatus as indicated on its identification tag, and

(iii) Secured to the painter at one end and secured to the vessel on the other end.

(2) The means by which the float-free link is attached to the vessel must—

(i) Have a breaking strength of at least the breaking strength of the painter,

(ii) If synthetic, be of a dark color or of a type certified to be resistant to deterioration from ultraviolet light, and

(iii) If metal, be corrosion resistant.

(3) If the life float or buoyant apparatus does not have a painter attachment fitting, a means for attaching the painter must be provided by a wire or line that—

(i) Encircles the body of the device,

(ii) Will not slip off,

(iii) Has a breaking strength that is at least the breaking strength of the painter, and

(iv) If synthetic, is of a dark color or is of a type certified to be resistant to deterioration from ultraviolet light.

(4) The float-free link described in paragraphs (d)(1) and (d)(2) of this section is not required if the vessel operates solely in waters which have a depth less than the length of the painter.

(5) If the vessel carries more than one life float or buoyant apparatus, the life floats and buoyant apparatus may be grouped and each group secured by a single painter, provided that—

(i) The combined weight of each group of life floats and buoyant apparatus does not exceed 185 kg (400 lb.),

(ii) Each life float and buoyant apparatus is individually attached to the painter by a line that meets § 75.20-35 (d)(2) and (d)(3) and which is long enough so that each can float without contacting any other life float or buoyant apparatus in the group, and

(iii) The strength of the float-free link under paragraph (d)(1)(ii) of this section and the strength of the painter under § 75.20-35(d)(2) is determined by the combined capacity of the group of life floats and buoyant apparatus.

(6) Stowing of life floats and buoyant apparatus must allow easy launching. Life floats and buoyant apparatus over 185 kg (400 lb.) must not require lifting before launching.

(7) Life floats and buoyant apparatus must not be secured to the vessel except by the painter and by lashings which can be easily released or hydraulic releases. They must not be stowed in more than four tiers. When stowed in tiers, the separate units must be kept apart by spacers.

(8) There must be means to prevent shifting.

(e) Each hydraulic release used in the installation of any life raft, inflatable life raft, life float, or buoyant apparatus must meet subpart 160.062 of this chapter.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5716, Apr. 12, 1968; CGD 79-167, 47 FR 41371, Sept. 20, 1982]

§ 75.15-15 Marking.

(a) Lifeboats, liferafts, life floats, and buoyant apparatus shall be marked as required by §§ 78.47-60 and 78.47-63 of this subchapter.

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§ 75.15-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) The provisions of §§ 75.15-5 through 75.15-15 shall be met except as further set forth in this paragraph.

(2) The requirements of § 75.15-10(b)(8) shall apply unless, in the opinion of the Officer in Charge, Marine Inspection, it is unreasonable or impracticable or the arrangements or construction of the vessel make the use of skates or similar appliances unnecessary.

(3) The requirements of § 75.15-10(b)(10) need only apply if it is deemed reasonable and practicable by the Officer in Charge, Marine Inspection.

(4) Existing vessels having nested lifeboats may continue such arrangements. However, no subsequent modification, replacement, or rearrangement may result in a greater capacity in the nested lifeboats nor a greater number of persons being permitted aboard the vessel.

Subpart 75.20—Equipment for Lifeboats, Liferrafts, Lifefloats, and Buoyant Apparatus

§ 75.20-1 Application.

(a) The provisions of this subpart, with the exception of § 75.20-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.20-90.

§ 75.20-5 General.

(a) Equipment for lifeboats, liferafts, lifefloats, and buoyant apparatus shall be of good quality, efficient for the purpose they are intended to serve, and kept in good condition.

(b) Lifeboats, liferafts, lifefloats, and buoyant apparatus shall be fully equipped before the vessel is navigated and the equipment shall remain on such lifesaving appliances throughout the voyage. In any case, such lifesaving appliances shall be fully equipped at all times when passengers are aboard.

(c) It shall be unlawful to stow any lifeboat, liferaft, lifefloat or buoyant apparatus, any article not required by this subpart unless such article can be properly stowed so as not to reduce the seating capacity or space available to the occupants and so as not to adversely affect the seaworthiness of such appliances or, in the case of lifeboats, overload the davits or winches.

(d) Loose equipment, except buoys, hooks in lifeboats, shall be securely attached to the lifesaving appliance to which it belongs.

§ 75.20-10 Required equipment for lifeboats.

(a) The lifeboats for all vessels shall be equipped in accordance with Table 75.20-10(a). For a description of items contained in this table, and units comprising the items, see the applicable paragraphs of § 75.20-15. The letter identification prefixing the item in the table corresponds to the paragraph designations in § 75.20-15.

TABLE 75.20-10(a)

Letter identification	Item	Ocean and coastwise	Great Lakes	Lakes and sound
a	Bailer	1	1	1
b	Bilge pump	1	None	1
c	Boathooks	2	1	1
d	Bucket	2	1	1
e	Compass and mounting	1	None	None
f	Dirty bag	1	None	None
g	Drinking cups	1	None	None
h	Fire extinguishers (motor-propelled lifeboats only)	2	2	2
i	First aid kit	1	None	1
j	Flashlight	1	1	1
k	Flashlight	2	2	2
l	Heaving line	2	None	None

TABLE 75.20-10(a)—Continued

Letter identification	Item	Ocean and coastwise	Great Lakes	Lakes, bays and sounds, and rivers
m	Jackknife	1	None	None
n	Ladder, lifeboat gunwale	1	None	None
o	Lantern	1	1	1
p	Lifeline	1	1	1
q	Life preservers	2	2	2
r	Locker	1	1	None
s	Mast and sail (oar-propelled lifeboats only)	1	None	None
t	Matches (boxes)	2	1	1
u	Milk, condensed (pounds per person)	1	None	None
v	Mirrors, signaling	2	None	None
w	Oars	¹ 1 unit	² 1 unit	¹ 1 unit
x	Oil, illuminating (quarts)	1	1	None
y	Oil, storm (gallons)	1	1	None
z	Painter	2	2	1
aa	Plug	1	1	1
bb	Provisions (pounds per person)	2	None	None
cc	Radio installation	³ 1	None	None
dd	Rowlocks	⁴ 1 unit	⁴ 1 unit	⁴ 1 unit
ee	Rudder and tiller	1	1	None
ff	Sea anchor	1	1	None
gg	Searchlight	⁵ 1	1	None
hh	Signals, distress, floating orange smoke	2	None	None
ii	Signals, distress, red hand flare	² 1 unit	² 1 unit	None
jj	Signals, distress, red parachute flare	² 1 unit	² 1 unit	None
kk	Tool kit (motor-propelled lifeboats only)	² 1 unit	1 unit	² 1 unit
ll	Water (quarts per person)	3	None	None
mm	Whistle, signaling	1	None	None
nn	Fishing kit	1	None	None
oo	Cover, protecting	1	None	None
pp	Signals, lifesaving	1	None	None
qq	Deserting kit	² 1	None	None

¹ Motor-propelled lifeboats, certified for 100 or more persons, shall be fitted with an additional hand bilge pump of an approved type or a power bilge pump.

² For description of units, see § 75.20-15.

³ Required only on motor-propelled lifeboats fitted with radio cabin, see § 75.10-5(a)(5).

⁴ Vessels in coastwise service need only carry 1 unit for each 5 lifeboats or fraction thereof.

⁵ Optional equipment. See § 75.20-15(11), water.

§ 75.20-15 Description of equipment for lifeboats.

(a) **Bailer.** The bailer shall have a lanyard attached and shall be of sufficient size and suitable for bailing.

(b) **Bilge pump.** Bilge pumps shall be of an approved type, constructed in accordance with subpart 160.044 of subchapter Q (Specifications) of this Chapter. They shall be of the size given in Table 75.20-15(b) depending upon the capacity of the lifeboat as determined by the six-tenths rule as described in § 160.035-9(b) of subchapter Q (Specifications) of this chapter.

TABLE 75.20-15(b)

Capacity of lifeboat cubic feet		Bilge pump size
Over	Not over	
330	330	1
	700	2

TABLE 75.20-15(b)—Continued

Capacity of lifeboat cubic feet		Bilge pump size
Over	Not over	
700		3

(c) **Boathooks.** Boathooks shall be of the single hook ball point type. Boathook handles shall be of clear grained white ash, or equivalent, and of a length and diameter as given in Table 75.20-15(c).

TABLE 75.20-15(c)

Length of lifeboat, feet		Boathook handles	
Over	Not over	Diameter, inches	Length, feet
23	23	1½	8
29	29	1¾	10
		2	12

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(d) *Bucket.* The bucket shall be of heavy gauge galvanized iron, or other suitable corrosion resistant metal, of not less than 2 gallons capacity, and shall have a 6-foot lanyard of 12 thread manila attached.

(e) *Compass and mounting.* The compass and mounting shall be of an approved type constructed in accordance with United States Coast Guard specification dated December 14, 1944.

(f) *Ditty bag.* The ditty bag shall consist of a canvas bag and shall contain a sailmaker's palm, needles, sail twine, marline, and marline spike.

(g) *Drinking cups.* Drinking cups shall be enamel coated or plastic, graduated in ounces, and be provided with lanyards 3 feet in length.

(h) *Fire extinguisher.* Fire extinguishers shall be of approved Type B-C, Size I (see § 76.50-5 of this subchapter). One shall be attached to each end of the lifeboat.

(i) *First aid kit.* The first aid kit shall be of an approved type, constructed and fitted in accordance with subpart 160.041 of subchapter Q (Specifications) of this chapter.

(j) *Flashlight.* The flashlight shall be a Type I or Type III flashlight constructed and marked in accordance with ASTM F1014-1986. Three spare cells and two spare bulbs, stowed in a watertight container, shall be provided with each flashlight. Batteries shall be replaced yearly during the annual stripping, cleaning, and overhaul of the lifeboats.

NOTE: Flashlights bearing a Coast Guard approval number may continue to be used in lifeboats and liferafts as long as they are in a serviceable condition.

(k) *Hatchet.* Hatchets shall be of an approved type, constructed in accordance with subpart 160.013 of subchapter Q (Specifications) of this chapter. They shall be attached to the lifeboat by individual lanyards and be readily available for use, one at each end of the lifeboat.

(l) *Heaving line.* The heaving line shall be of adequate strength, 10 fathoms in length, and 1 inch in circumference. It shall be of such quality as to

be buoyant after 24 hours submergence.

(m) *Jackknife.* The jackknife (with can opener) shall be of an approved type, constructed in accordance with subpart 160.043 of subchapter Q (Specifications) of this chapter.

(n) *Ladder, lifeboat gunwale.* The lifeboat gunwale ladder shall consist of 3 flat wood steps cut out for hand holds. The steps shall be spaced 12 inches apart and fastened with $\frac{1}{2}$ inch-diameter manila rope. Each rope end shall be tied inside the lifeboat at about amidships with the ladder stowed on top of the side benches and ready for immediate use. Other suitable devices may be specifically approved.

(o) *Lantern.* The lantern shall contain sufficient oil to burn for at least 9 hours, and shall be ready for immediate use.

(p) *Lifeline.* The lifeline shall be properly secured to both sides of the lifeboat along its entire length, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The lifeline shall be of a size and strength not less than $\frac{1}{2}$ -inch diameter manila. The bights shall hang to within 12 inches of the water when the lifeboat is light.

(q) *Life preservers.* Life preservers shall be of an approved type, constructed in accordance with the applicable subparts of subchapter Q (Specifications) of this chapter.

(r) *Locker.* The locker shall be suitable for the storage and preservation of the small items of equipment.

(s) *Mast and sail.* A unit, consisting of a standing lug sail together with the necessary spars and rigging, shall be provided in general agreement with Table 75.20-15(s). The sails shall be of good quality canvas, or other material acceptable to the Commandant, colored Indian Orange (Cable No. 70072, Standard Color Card of America). Rigging shall consist of galvanized wire rope not less than three-sixteenth inch in diameter. The sail and gear shall be protected by a suitable cover.

TABLE 75.20-15(s)

Length of lifeboat, feet		Standing lug sail							Mast ¹		Yard ¹	
Over	Area Not over	Area square feet	Luff and head length	Leach length	Foot length	Clear to throat	Ounces per square yard	Commercial designation number	Length	Diameter	Length	Diameter
17	17	58	5'11"	12'1"	8'10"	10'10"	14.35	10	11'2"	3"	6'11"	2"
19	19	74	6'8"	13'8"	10'0"	12'2"	14.35	10	12'6"	3"	7'8"	2"
21	21	93	7'5"	15'1"	11'2"	13'8"	14.35	10	13'10"	3 1/4"	8'5"	2 1/4"
23	23	113	8'3"	16'11"	12'4"	15'1"	14.35	10	15'2"	3 1/4"	9'3"	2 1/4"
25	25	135	9'0"	18'6"	13'6"	16'8"	14.35	10	16'6"	4"	10'0"	3"
27	27	158	9'9"	20'0"	14'7"	17'10"	17.50	8	17'10"	4"	10'8"	3"
29	29	181	10'5"	21'5"	15'7"	19'1"	17.50	8	19'2"	4 1/4"	11'5"	3 1/4"
31	31	203	11'0"	22'8"	16'6"	20'3"	20.74	6	20'6"	4 1/4"	12'0"	3 1/4"
	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)

¹ Mast lengths measured from heel to center of upper halyard sheave. Mast diameters measured at thwart. Mast and yard shall be of clear grained spruce, fir, or equivalent.

² Subject to special consideration.

(b) *Matches.* A box of friction matches in a watertight container stowed in an equipment locker or secured to the underside of the stern thwart if no locker is fitted.

(u) *Milk, condensed.* One pound of condensed milk shall be provided for each person the lifeboat is certified to carry, to be stowed in lockers or other compartments providing suitable protection.

(v) *Mirrors, signaling.* Signaling mirrors shall be of an approved type.

(w) *Oars.* A unit, consisting of a complement of rowing oars and a steering oar, shall be provided for each lifeboat in accordance with Table 75.20-15(w), except that motor-propelled and hand-propelled lifeboats need only be equipped with 4 rowing oars and 1 steering oar. In any case, the emergency lifeboats shall be provided with the full complement of oars prescribed by the table. All oars shall be buoyant.

TABLE 75.20-15(w)

Length of lifeboat, feet		Number of oars		Length of oars, feet	
Over	Not over	Rowing	Steering	Rowing	Steering
15	15	4	1	8	9
19	19	6	1	10	11
21	21	6	1	11	12
23	23	6	1	12	13
25	25	8	1	13	14
27	27	8	1	14	15
29	29	8	1	15	16

(x) *Oil, illuminating.* One quart of illuminating oil shall be provided in a metal container.

(y) *Oil, storm.* One gallon of vegetable, fish, or animal oil shall be provided in a suitable metal container so constructed as to permit a controlled distribution of oil on the water, and so arranged that it can be attached to the sea anchor.

(z) *Painter.* Painters shall be of manila rope not less than 2 1/4 inches in circumference, or equivalent, and of a length not less than 3 times the distance between the deck on which the lifeboat is stowed and the light draft of the vessel. For lifeboats on vessels in ocean, coastwise, or Great Lakes service one of the painters shall have a long eye splice and shall be attached to the thwart with a toggle. The other painter shall be attached to the stem.

(aa) *Plug.* The automatic drain plug required in the lifeboat shall be provided with a cap or plug attached to the lifeboat by a suitable chain.

(bb) *Provisions.* Two pounds of hard bread or its approved equivalent shall be provided for each person the lifeboat is certified to carry. The provisions shall be packaged in hermetically sealed cans of an approved type. The cans shall be stowed in lockers or other compartments providing suitable protection.

(cc) *Radio installation.* The radio installation shall comply with the requirements of the Federal Communications Commission.

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(dd) *Rowlocks.* A unit, consisting of sufficient rowlocks and rowlock sockets for each oar required by Table 75.20-15(w) plus two additional rowlocks. The rowlocks shall be attached to the lifeboat by separate chains so as to be available for immediate use, except that the two additional spare rowlocks shall be carried in the equipment locker or stowed near the stern if no locker is fitted. The rowlocks and rowlock sockets shall be distributed so as to provide the maximum amount of single banked oars practicable.

(ee) *Rudder and tiller.* The rudder and tiller shall be constructed in accordance with § 160.035-3(t) in subpart 160.035 of subchapter Q (Specifications) of this chapter.

(ff) *Sea anchor.* The sea anchor shall be of an approved type.

(gg) *Searchlight.* The searchlight shall be of an approved type, constructed in accordance with subpart 161.006 of subchapter Q (Specifications) of this chapter. If installed on a lifeboat equipped with a radio cabin, it shall be securely mounted to the top of the radio cabin and its source of power shall be capable of operating the light intermittently (10 minutes of continuous operation per hour) for a period of at least 3 hours. Where the power for the radio equipment and the searchlight are derived from the same source, it shall be sufficient to provide for adequate operation of both appliances. On lifeboats without a radio cabin, means shall be provided to mount it readily. The mounting may be of a portable type (stanchion type or collapsible type). The source of power shall be connected with watertight electrical fittings as required in subpart 111.75 of subchapter J (Electrical Engineering) of this chapter. When not in use, it shall be securely stowed safely, free from any possible damage. Two spare bulbs shall be provided with each installation.

(hh) *Signals, distress, floating orange smoke.* Two approved floating orange smoke distress signals, constructed in accordance with subpart 160.022 of subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to three years from date of manufacture, and replacement shall be made no

later than the first annual inspection of the vessel after the date of expiration.

(ii) *Signals, distress, red hand flare.* A unit, consisting of twelve approved hand red flare distress signals in a watertight container, constructed in accordance with subpart 160.021 or subpart 160.023 of subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to three years from date of manufacture, and replacement shall be made no later than the first annual inspection of the vessel after the date of expiration.

(jj) *Signals, distress, red parachute flare.* A unit, consisting of twelve approved parachute red flare distress signals, with an approved means of projecting them, all contained in a portable watertight container; or twelve approved hand-held rocket-propelled parachute red flare distress signals contained in a portable watertight container. Construction shall be in accordance with subparts 160.024 and 160.028 or subpart 160.036 of subchapter Q (Specifications) of this chapter. The service use of this equipment shall be limited to three years from date of manufacture, and replacement shall be made no later than the first annual inspection of the vessel after the date of expiration.

(kk) *Tool kit.* The tool kit shall consist of at least the following tools contained in a suitable container:

(1) One 12-ounce ball peen hammer.
(2) One screwdriver with 6-inch blade.

(3) One pair 8-inch slip joint pliers.
(4) One 8-inch adjustable end wrench.

(ll) *Water.* (1) For each person the lifeboat is certified to carry, there shall be provided 3 quarts of drinking water consisting of nine approved hermetically sealed containers per person constructed and filled in accordance with subpart 160.026 of subchapter Q (Specifications) of this chapter. The service life of this equipment shall be limited to 5 years from date of packing, and replacement of outdated containers shall be made at the first annual inspection of the vessel after the date of expiration. Approved desalting kits capable of producing at

equal amount of drinking water may be substituted for not more than one-third of the drinking water required to be carried in the lifeboat.

(2) The drinking water containers shall be stowed in drinking water tanks, lockers, or other compartments providing suitable protection.

(mm) *Whistle, signaling.* The whistle shall be of the ball-type, of corrosion-resistant construction, with a 3-foot lanyard attached, and in good working order.

(nn) *Fishing kit.* The fishing kit shall be of approved type constructed in accordance with subpart 160.061 of subchapter Q (Specifications) of this chapter.

(oo) *Cover, protecting.* The protecting cover shall be of a highly visible color, and capable of protecting the occupants against injury by exposure.

(pp) *Table of lifesaving signals.* The table shall be in accordance with the provisions of chapter V, Regulation 16, of the International Convention for Safety of Life at Sea, 1974, and shall be printed on water resistant paper.

(qq) *Desalting kit.* One or more approved desalting kits may be used as a substitute for one-third of the re-

quired amount of drinking water per person, and shall be in accordance with subpart 160.058 of subchapter Q (Specifications) of this chapter.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGFR 68-32, 33 FR 5716, Apr. 12, 1968; CGD 73-257, 39 FR 35798, Oct. 4, 1975; CGD 82-042, 53 FR 17704, May 18, 1988; CGD 90-008, 55 FR 30661, July 26, 1990]

§ 75.20-20 Required equipment for life-rafts.

(a) The liferafts for all vessels shall be equipped in accordance with Table 75.20-20(a). For a description of the items contained in this table and the units comprising the items, see the applicable paragraphs of § 75.20-25. The letter identification prefixing the item in the table corresponds to the paragraph designation in § 75.20-25.

(b) Inflatable liferafts shall be equipped with ocean service equipment for vessels on ocean and coastwise routes and with limited service equipment for vessels on Great Lakes, lakes, bays, sounds, and river routes in accordance with subpart 160.051 of subchapter Q (Specifications) of this chapter.

TABLE 75.20-20(a)

Letter identification	Item	Ocean and coastwise	Great Lakes	Lakes, bays, sounds, and rivers
a.	Boathook	1	1	1
b.	Drinking cups	1	None	None
c.	Jackknife	1	None	None
d.	Lifeline	1 ¹	1 ¹	1 ¹
e.	Matches (boxes)	1	1	None
f.	Mirrors, signaling	2	None	None
g.	Cars	² 1 unit	² 1 unit	² 1 unit
h.	Oil, storm (gallons)	1	1	None
i.	Painter	1	1	1
j.	Provisions (pounds per person)	2	None	None
k.	Rowlocks	² 1 unit	² 1 unit	² 1 unit
l.	Sea anchor	1	1	None
m.	Signals, distress	² 1 unit	² 1 unit	None
n.	Water (quarts per person)	1	None	None
o.	Water light	1	1	None

¹ Not required on Type A liferafts.

² For description of units see § 75.20-25.

² 1 unit here means 6 hand red flare distress signals and 6 parachute red flare distress signals with an approved means of projecting them.

NOTE: Subpart 160.051 of subchapter Q (Specifications) of this chapter requires the servicing of inflatable liferafts at approved servicing facilities. Included in the servicing

at an approved servicing facility is a complete inspection of the required equipment by a marine inspector.

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§ 75.20-25 Description of equipment for liferafts.

(a) *Boathook*. Boathooks shall be of the single hook ball point type. Boathook handles shall be of clear grained white ash, or equivalent, not less than 8 feet long and 1½ inches in diameter.

(b) *Drinking cups*. Drinking cups shall be enameled and shall be provided with ½ inch cotton lanyard, 3 feet in length.

(c) *Jackknife*. The jackknife (with can opener) shall be of an approved type, constructed in accordance with subpart 160.043 of subchapter Q (Specifications) of this chapter.

(d) *Lifeline*. The lifeline shall be properly secured around the sides and ends of the liferaft, festooned in bights not longer than 3 feet, with a seine float in each bight, which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The lifeline shall be of a size and strength not less than ¾-inch diameter manila.

(e) *Matches*. A box of friction matches in a watertight container.

(f) *Mirrors, signaling*. Signaling mirrors shall be of an approved type.

(g) *Oars*. A unit, consisting of 4 rowing oars and one steering oar not less than 8 feet in length shall be provided for liferafts for 7 persons or more. For liferafts for 6 persons or less, a unit shall consist of 2 paddles not less than 5 feet in length.

(h) *Oil, storm*. One gallon of vegetable, fish, or animal oil shall be provided in a suitable metal container so constructed as to permit a controlled distribution of oil on the water, and so arranged that it can be attached to the sea anchor.

(i) *Painter*. Painters shall be of manila rope not less than 2¼ inches in circumference and of a length not less than 3 times the distance between the deck on which the liferafts are stowed and the light draft of the vessel.

(j) *Provisions*. Two pounds of hard bread or its approved equivalent shall be provided for each person the liferaft is certified to carry. The provisions shall be packaged in hermetically sealed cans of an approved type. The cans shall be stowed in compartments providing suitable protection.

(k) *Rowlocks*. A unit consisting of 5 rowlocks attached to the liferaft by separate chains and ready for immediate use, together with proper rowlock sockets so arranged as to provide 4 rowing positions and one steering position with the liferaft floating either side up. Rowlocks and rowlock sockets are not required on liferafts for 6 persons or less.

(l) *Sea anchor*. The sea anchor shall be constructed of good quality canvas or other satisfactory material, and shall be not less than 2 feet in diameter.

(m) *Signals, distress*. A unit, consisting of equipment as specified in paragraphs (m) (1) through (3) of this section. The service use of this equipment shall be limited to three years from date of manufacture, and replacement shall be made no later than the first annual inspection of the vessel after the date of expiration.

(1) Twelve approved hand red flare distress signals in a watertight container and two approved floating orange smoke distress signals, constructed in accordance with subparts 160.021 and 160.022 of subchapter Q (Specifications) of this chapter; or

(2) Twelve approved hand red flare distress signals in a watertight container and 12 approved hand orange smoke distress signals, constructed in accordance with subparts 160.021 and 160.037 of subchapter Q (Specifications) of this chapter; or

(3) Twelve approved hand combination flare and smoke distress signals constructed in accordance with subpart 160.023 of subchapter Q (Specifications) of this chapter.

(n) *Water*. (1) For each person the liferaft is certified to carry, there shall be provided one quart of drinking water consisting of 3 approved hermetically sealed containers per person constructed and filled in accordance with subpart 160.028 of subchapter Q (Specifications) of this chapter. The service life of this equipment shall be limited to five years from date of packing, and replacement of outdated containers shall be made at the first annual inspection of the vessel after the date of expiration.

(2) The drinking water containers shall be stowed in compartments providing suitable protection.

(o) *Water light.* (1) The water light must be—

(i) Of an approved automatic electric type, constructed in accordance with subpart 161.010 of this chapter, except as allowed under paragraph (o)(2) of this section; and

(ii) Attached to the liferaft by a 12-thread manila or equivalent synthetic lanyard, at least 5.5 meters (18 feet) in length.

(2) A water light constructed in accordance with former subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972 may be retained in an existing installation as long as it is maintained in good condition.

[CGFR 65-50, 30 FR 16926, Dec. 20, 1965, as amended by CGD 79-165a, 45 FR 64187, Sept. 29, 1980]

§ 75.20-30 Required equipment for life-floats and buoyant apparatus.

(a) The life-floats and buoyant apparatus for all vessels shall be equipped in accordance with Table 75.20-30(a). For a description of the items contained in this table, and the units comprising the items, see the applicable paragraphs of § 75.20-35. The letter identification prefixing the item in the table corresponds to the paragraph designation in § 75.20-35.

TABLE 75.20-30(a)

Letter identification	Item—	Number required for each life float and buoyant apparatus		
		Ocean and coastwise	Great Lakes	Lakes, bays, sounds, and rivers
a.....	Boathook ¹	1	1	1
b.....	Lifeline.....	1	1	1
c.....	Paddles ¹	4	4	4
d.....	Painter.....	1	1	1
e.....	Water light ²	1	1	None

¹ Buoyant apparatus need not be equipped with boathook or paddles.

² Equipment for 24 persons or less not required to have a water light.

§ 75.20-35 Description of equipment for life-floats and buoyant apparatus.

(a) *Boathook.* Boathooks shall be of the single hook ball point type. Boat-

hook handles shall be of clear grained white ash, or equivalent, not less than 6 feet long and 1½ inches in diameter.

(b) *Lifeline.* The lifeline shall be properly secured around the sides and ends of the life-float or buoyant apparatus, festooned in bights not longer than 3 feet, with a seine float in each bights which float may be omitted if the line is of an inherently buoyant material and absorbs little or no water. The lifeline shall be of a size and strength not less than ¾-inch diameter manila.

(c) *Paddles.* Paddles shall be not less than 5 feet long.

(d) *Painter.* The painter must—

(1) Be at least 30 m (100 ft.) long, but not less than 3 times the distance between the deck on which the life floats and buoyant apparatus are stowed and the light draft of the vessel.

(2) Have a breaking strength of at least 6.7 kN (1500 lb.), except that if the capacity of the life float or buoyant apparatus is 50 persons or more, the breaking strength must be at least 13.4 kN (3000 lb.).

(3) Be of a dark color if synthetic, or of a type certified to be resistant to deterioration from ultraviolet light, and

(4) Be stowed in such a way that it runs out freely when the life float or buoyant apparatus floats away from the sinking vessel.

(e) *Water light.* (1) The water light must be—

(i) Of an approved automatic electric type, constructed in accordance with Subpart 161.010 of this chapter, except as allowed under paragraph (e)(2) of this section; and

(ii) Attached to the life-float or buoyant apparatus by a 12-thread manila or equivalent synthetic lanyard, at least 5.5 meters (18 feet) in length.

(2) A water light constructed in accordance with former Subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972 may be retained in an existing installation as long as it is maintained in good condition.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGD 79-165a, 45 FR 64187, Sept. 29, 1980; CGD 79-167, 47 FR 41372, Sept. 20, 1982]

§ 75.20-90

§ 75.20-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 75.20-5 through 75.20-35 shall be complied with insofar as the number of items of equipment and the method of stowage of the equipment is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 75.20-5 through 75.20-35 may be continued in service so long as they are maintained in a good condition to the satisfaction of the Officer in Charge, Marine Inspection. All new installations or replacements shall meet the applicable specifications or requirements in this part.

(2) Lifeboats previously approved without automatic drain plugs shall have two plugs or caps attached to the lifeboat by separate chains.

(3) Decked lifeboats shall have no drain holes or plugs, but shall be equipped with two bilge pumps.

(4) On vessels in ocean or coastwise service and contracted for prior to November 19, 1952, unless other approved means are provided to achieve the same purpose, three ½-inch diameter manila grablines shall be fitted extending from gunwale to gunwale under the keel to enable persons to cling to and climb upon the upturned lifeboat. The ends of each grabline shall be securely attached to the side benches or other permanent part of the lifeboat and each grabline shall be made up with figure eight knots spaced approximately 18 inches apart in order to provide hand grips. Means shall be provided for taking up any slack in the grablines.

Subpart 75.25—Davits for Lifeboats

§ 75.25-1 Application.

(a) The provisions of this subpart, with the exception of § 75.25-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.25-90.

§ 75.25-5 General.

(a) All gravity and mechanical type davits shall be of an approved type, constructed in accordance with subpart 160.032 of subchapter Q (Specifications) of this chapter.

(b) Davits for lifeboats weighing in excess of 5,000 pounds when fully equipped (but without persons), shall be of the gravity type.

(c) All davits shall be so arranged that the lifeboats do not require lifting prior to being swung out.

(d) All davits and necessary gear shall be such as to meet the requirements for the installation test set forth in subpart 75.35. The design, arrangements, and installation shall be such as to preclude undue delay in getting the lifeboats into the water, and shall be of such strength that the lifeboats can be turned out manned by a launching crew and then safely lowered with the full complement of persons and equipment, with the ship listed to 15 degrees either way and with a 10-degree trim.

(e) Radial davits, where permitted, shall comply with the following requirements:

(1) They shall be fitted with means to prevent them from being jerked from their sockets.

(2) They shall maintain a factor of safety of six based on the weight of the fully equipped and loaded lifeboat, except that the weight of the fully equipped lifeboat alone may be used where the lifeboat is launched before being loaded with passengers and crew.

(3) They shall be fitted with hand gear of sufficient power to insure that the boat can be turned out against a maximum list of 15 degrees.

(4) They shall be shop tested and show no permanent set or undue stress when subjected to a load equal to 2.2 times the working load. In addition, they shall be shop tested with a load equal to 1.1 times the weight of the fully equipped lifeboat with the davit set up to simulate a 15-degree list inboard, and it shall be determined that the hand gear can adequately handle the load in this condition.

(f) Davits shall be so disposed on one or more decks as to permit the life

boats placed under them to be safely lowered without interference from the operation of any other davits.

(g) On a vessel on which inflatable life rafts have been substituted for lifeboats, a launching device for each lifeboat to be used for rescue purposes shall be installed. Radial type davits or other means may be used in sheltered waters if acceptable to the Officer in Charge, Marine Inspection.

§ 75.25-10 Requirements for vessels in ocean or coastwise service.

(a) All vessels shall be fitted with a set of approved gravity or mechanical davits for each lifeboat carried.

(b) All davit installations shall have two lifelines fitted to a davit span: *Provided*, That the span fitted to the davits which are used to handle the emergency lifeboats required by § 75.10-10(a)(3) shall have four such lifelines. The lifelines shall be of such length as to reach the water at the lightest seagoing draft with the vessel listed 15 degrees either way.

§ 75.25-15 Requirements for vessels in Great Lakes, lakes, bays, and sounds; or river service.

(a) All vessels shall be fitted with a set of approved gravity or mechanical davits for each lifeboat carried, except that on small vessels, radial type davits may be used if specifically approved by the Commandant.

(b) Davit installations on vessels in Great Lakes service shall have at least 2 lifelines fitted to a davit span. The lifelines shall be of such length as to reach the water at the lightest seagoing draft with the vessel listed 15 degrees either way.

§ 75.25-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 75.25-5 through 75.25-15 shall be complied with insofar as the number and general type of equipment is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 75.25-5

through 75.25-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be made to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable specifications or requirements in this subpart.

(2) On vessels the keels of which were laid after September 1, 1941, all davits for lifeboats weighing in excess of 5,000 pounds when fully equipped (but without persons) shall be of the gravity type.

(3) Existing vessels having nested lifeboats may continue such arrangements.

Subpart 75.27—Inflatable Liferaft Launching Devices

§ 75.27-1 Application.

(a) The provisions of this subpart shall apply to all vessels on an international voyage on which liferafts were permitted to be substituted for lifeboats under the provisions of § 75.10-10(a)(5).

§ 75.27-5 General.

(a) All launching devices for putting liferafts loaded with persons in the water shall be of an approved type.

(b) The design, arrangement, and installation of all launching devices shall be such as to preclude any undue delay in getting the liferafts safely into the water loaded with their full complement of persons and equipment even with unfavorable conditions of trim and a list of 15 degrees either way. The design shall provide a factor of safety of at least 6 in these conditions, based upon the ultimate strength of the materials.

(c) Launching devices shall be so arranged that after the rafts are loaded with persons, they do not require lifting prior to being swung out or lowered.

(d) Launching devices shall be provided with suitable means for detaching the liferafts from the falls which is operable from inside the liferaft, or by an automatic release which shall oper-

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ate when the weight of the loaded raft is waterborne; however, such an automatic release shall be limited to rafts which are suspended from a single attachment point.

(e) Launching devices shall be provided with means for rapidly retrieving the falls by hand power.

(f) The number of approved liferaft launching devices required to be provided and the number of liferafts allocated to each launching device shall be as determined by the Commandant, and shall be such that fully loaded liferafts and lifeboats of sufficient capacity to accommodate all persons on board can be put into the water in not more than 30 minutes in calm conditions.

(g) On vessels where approved liferaft launching devices are required, they shall be distributed equally on each side of the vessel, and in no case shall there be less than two launching devices, one on each side.

Subpart 75.30—Lifeboat Winches

§ 75.30-1 Application.

(a) The provisions of this subpart, with the exception of § 75.30-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.30-90.

§ 75.30-5 General.

(a) All lifeboat winches shall be of an approved type, constructed in accordance with subpart 160.015 of subchapter Q (Specifications) of this chapter.

(b) Where ice conditions are likely to be encountered, suitable fabric covers shall be provided for all lifeboat winches, so fitted over exposed mechanism, that ice formations may be readily broken adrift when necessary to operate the winch.

(c) Where lifeboat winches are used, wire falls shall be employed.

§ 75.30-10 Number and type required.

(a) Lifeboat winches shall be fitted for each set of davits on all vessels where the height of the deck on which lifeboats are carried exceeds 20 feet from the lightest seagoing draft.

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(b) Lifeboat winches shall be used in all cases where gravity type davits are employed.

(c) Lifeboat winches for use with gravity davits shall have grooved drums of such size that there will be only one layer of wire on the drums. Lifeboat winches for use with mechanical davits need not have grooved drums, and may be designed to take more than one layer of wire.

(d) Lifeboat winches shall be fitted for each set of davits used for the emergency lifeboats, and in addition to meeting all other requirements for winches, the emergency lifeboat winch shall be capable of recovering the emergency lifeboat with its full complement of persons and equipment at a hoisting speed of not less than 20 feet per minute.

§ 75.30-15 Installation.

(a) Lifeboat winches shall be so located that the operator can observe the movement of the lifeboat during the lowering operation. In addition, any electrical controls provided shall meet the requirements of subchapter J (Electrical Engineering) of this chapter.

(b) The lead of the falls to the lifeboat winches and length and size of wire shall be in accordance with subpart 75.33.

[CGD 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGD 74-125A, 47 FR 15231, Apr. 8, 1982]

§ 75.30-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specially modified by this paragraph, the requirements of §§ 75.30-5 through 75.30-15 shall be complied with insofar as the number and general type of equipment is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 75.30-5 through 75.30-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. However, all new installations or

major replacements shall meet the applicable specifications or requirements in this part.

(2) Vessels certificated for river service need not comply with the requirements of § 75.30-10(a).

(3) Existing arrangements previously approved, but not meeting the requirements of § 75.30-10(d) or § 75.30-15(a), need not be changed. However, new installations or major alterations should conform with such requirements where reasonable and practicable.

(4) Where lifeboat winches are used with gravity davits, the installation shall comply with the requirements contained in § 160.015-3(k), of subpart 160.015 (Lifeboat Winches) of subchapter Q (Specifications) of this chapter.

(5) Lifeboat winches for use with nested lifeboats shall be provided with suitable means for rapidly retrieving the falls by handpower unless separate falls are provided for each lifeboat.

Subpart 75.33—Blocks and Falls for Lifeboats

§ 75.33-1 Application.

(a) The provisions of this subpart, with the exception of § 75.33-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.33-90.

§ 75.33-5 General.

(a) All blocks, falls, fairleads, pa-deyes, shackles, links, fastenings, etc., used in connection with lifeboat gear shall be designed with a minimum factor of safety of six, based on the maximum working load.

(b) Falls shall be of such length that the lifeboat may be lowered to the water with the vessel at its lightest draft listed 15 degrees either way.

(c) Falls, where exposed and subject to damage or fouling, shall be suitably protected.

(d) Such blocks or other fittings shall be fitted as are necessary to permit the falls to lead fair in all positions to the davits.

(e) Means for lubrication shall be provided for all moving parts of blocks, sheaves, fairleads, etc.

§ 75.33-10 Installations where lifeboat winches are used.

(a) All falls shall be of wire rope.

(b) Wire rope falls of 6×9 regular lay filler wire construction, prelubricated at the factory with suitable neutral wire rope lubricant, shall be accepted as standard. Any other wire rope, superior or equal to this minimum standard may be used.

(c) Not more than 2-part falls may be used, except in special cases where 3-part falls may be permitted by the Commandant.

(d) The lead sheaves to the drum shall be located so as to provide fleet angles of not more than 8 degrees for grooved drums and not more than 4 degrees for nongrooved drums. By fleet angle is meant the angle included between the wire rope from the lead sheave to the drum (or drum extended) when it is perpendicular to the axis of the drum, and the wire rope from the lead sheave to either extremity of the drum.

(e) Sheaves shall have a diameter at the base of the groove at least equal to 12 times the diameter of the wire rope.

§ 75.33-15 Installations where lifeboat winches are not used.

(a) All falls shall be of manila rope or equivalent. Wire rope may not be used.

(b) All vessels of over 1,000 gross tons shall be provided with covered tubs, boxes, or reels for the stowage and protection of the falls, and cruciform bitts shall be provided for properly lowering the lifeboats. Vessels of 1,000 gross tons and less shall have the falls protected from ice and ready for immediate use, and shall be provided with suitable lowering bitts or cleats.

(c) There shall be ample clearance between the cheeks of all blocks. The width between the cheeks shall be one-half inch greater than the diameter of new rope when rope of 3¼-inch circumference or greater is used. Blocks for smaller rope shall be designed with proportional clearances.

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§ 75.33-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 75.33-5 through 75.33-15, as applicable, shall be complied with insofar as the general type of equipment is concerned. Existing equipment previously approved, but not meeting the detailed requirements of §§ 75.33-5 through 75.33-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be made to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable requirements in this subpart.

(2) When nested lifeboats are used, the lower blocks shall be of the non-toppling type unless separate falls are provided for each lifeboat. Separate falls shall be provided for each lifeboat in all nested lifeboat installations not using wire falls.

Subpart 75.35—Installation of Lifeboats, Davits, and Winches

§ 75.35-1 Application.

(a) The provisions of this subpart shall apply to all installations contracted for on or after November 19, 1952, except as set forth in § 78.17-60(c) of this subchapter.

§ 75.35-5 Tests and examinations.

(a) Upon completion of the installation of lifeboats, davits, or winches, tests and examinations as required by this section shall be made to the satisfaction of the inspector before the vessel may be navigated.

(b) The lifeboat shall be swung out from the chocks and lowered to the embarkation deck. At this point the lifeboat shall be loaded with deadweight equivalent to the number of persons allowed (165 pounds per person) together with weight of equipment, plus 10 percent of the total load including the weight of the lifeboat.

No persons shall be permitted in the lifeboat while it is being loaded or lowered. The lifeboat shall then be lowered to the water and disengaged from the falls. If nested lifeboats are installed, both lifeboats shall be launched in the manner noted above. The following determinations shall be made:

(1) None of the equipment or parts thereof nor deck connections shall show signs of permanent set or excessive deflection.

(2) Mechanical and radial type davits shall be capable of being swung out without lifting the lifeboat.

(3) The falls shall be of sufficient length to lower the lifeboat as required by § 75.33-5(b).

(4) Where lifeboat winches are used, the following additional determinations shall be made:

(i) During lowering, the lifeboat shall be stopped at intervals of approximately 6 feet by the action of the counterweight alone. The counterweight shall be capable of stopping and holding the lifeboat. The brake action shall be smooth, but positive.

(ii) Brakes exposed to the weather shall be tested under the load conditions with the braking surfaces both wet and dry.

(iii) The governor brake shall be capable of controlling the speed of lowering of the fully equipped lifeboat with its complement of persons on board to not more than 120 feet per minute. In addition, the speed of lowering of the fully equipped lifeboat without its complement of persons shall be not less than 40 feet per minute. However, emergency lifeboats shall have a minimum lowering speed of 60 feet per minute in the fully equipped condition without persons aboard and a maximum lowering speed of 160 feet per minute in the fully equipped condition with the full complement of persons aboard.

(iv) Emergency lifeboat winches required to meet the provisions of § 75.30-10(d) shall be capable of recovering the emergency lifeboats in the fully equipped condition with the full complement of persons aboard at a hoisting speed of not less than 20 feet per minute.

(v) If nested lifeboats are used, the hand-operated quick-return mechanism shall be tested. The action shall be easy enough for one man to recover the falls.

[CGFR 65-50, 30 FR 16926, Dec. 6, 1966, as amended by CGFR 66-33, 31 FR 15282, Dec. 6, 1966]

Subpart 75.37—Installation of Inflatable Liferaft Launching Devices

§ 75.37-1 Application.

(a) The provisions of this subpart shall be applicable to all installations contracted for on or after May 26, 1965, except as specifically noted.

§ 75.37-5 Tests and examinations.

(a) Upon completion of the installation of liferaft launching devices, tests and examinations as required by this section shall be made to the satisfaction of the marine inspector before the vessel may be navigated.

(b) A fully equipped liferaft shall be inflated at its embarkation position. It shall then be loaded with deadweight equivalent to the number of persons allowed (165 pounds per person), plus 10 percent of the total load, which shall include the weight of the fully equipped raft. The liferaft shall then be lowered to the water and disengaged from the falls. Necessary safety precautions shall be taken for persons engaged in the loading of the liferaft. No person shall be allowed in the liferaft while it is being lowered. The following determinations shall be made:

(1) None of the equipment or parts thereof nor deck connections shall show signs of permanent set or excessive deflection.

(2) Arrangements at the embarkation deck shall be such that persons may be rapidly and safely loaded into the liferaft.

(3) The fully loaded liferaft shall be capable of being swung out from the embarkation deck and lowered without lifting.

(4) The falls shall be of sufficient length to lower the liferaft to the light load line with the vessel heeled 15 degrees inboard and with a 10-degree trim.

(5) During lowering, the liferaft shall be stopped at intervals of approximately 6 feet by the action of the counterweight alone. The counterweight shall be capable of stopping and holding the liferaft. The brake action shall be smooth, but positive.

(6) Brakes exposed to the weather shall be tested under the load conditions with the braking surfaces both wet and dry.

(7) The governor brake shall be capable of controlling the speed of lowering the fully equipped liferaft with its complement of persons on board to not more than 120 feet per minute. In addition, the speed of lowering of the fully equipped liferaft without its complement of persons shall be not less than 40 feet per minute.

(8) The hand-operated quick-return mechanism shall be tested. The action shall be easy enough for one man to recover the falls.

(c) Other methods of testing liferaft launching devices to demonstrate compliance with paragraph (b) of this section, which do not involve the launching of a fully loaded raft may be authorized, if in the opinion of the Commandant, such alternate tests adequately demonstrate compliance with the requirements.

Subpart 75.40—Life Preservers

§ 75.40-1 Application.

(a) The provisions of this subpart, with the exception of § 75.40-90, shall apply to all vessels contracted for on or after May 26, 1965.

(b) Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.40-90.

§ 75.40-5 General.

(a) All life preservers shall be of an approved type, constructed in accordance with subparts 160.002, 160.005, or 160.055 of subchapter Q (Specifications) of this chapter.

(b) All life preservers on vessels on an international voyage shall be provided with a whistle of the ball-type, of corrosion-resistant construction, with a 3-foot lanyard attached, and in good working order. It shall be attached to the life preserver by the lanyard.

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yard alone without hooks, snaps, clips, etc., and shall extend not less than 15 inches from the life preserver body. While stowed on the life preserver, the whistle lanyard shall be coiled and stopped-off.

§ 75.40-10 Number and type required.

(a) All vessels shall be provided with an approved type life preserver for each person carried and in addition, shall be provided with a number of life preservers suitable for children equal to at least 10 percent of the persons carried.

(b) In addition to the life preservers required by paragraph (a) of this section, all vessels on an international voyage shall be provided with approved type life preservers for 5 percent of the persons carried.

(c) In addition to the life preservers required by paragraphs (a) and (b) of this section, each person on watch in the engineroom, pilothouse, and at the bow lookout station must be provided with a Coast Guard approved life preserver that is stowed in accordance with § 75.40-15(c).

[CGFR 65-50, 30 FR 18926, Dec. 30, 1965, as amended by CGFR 72-45, 37 FR 5031, Mar. 9, 1972]

§ 75.40-15 Distribution.

(a) Life preservers, including those especially provided for children, shall be properly distributed throughout the staterooms, berthings, and other places convenient for passengers and crew.

(b) The additional life preservers required by § 75.40-10(b) shall be stowed in conspicuous places on deck.

(c) The additional number of life preservers required by § 75.40-10(c) must be stowed in locations that are accessible to each person on watch in the—

- (1) Engine room;
- (2) Pilothouse; and
- (3) Bow lookout station.

[CGFR 65-50, 30 FR 18926, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15282, Dec. 6, 1966; CGFR 72-45, 37 FR 5031, Mar. 9, 1972]

§ 75.40-20 Stowage.

(a) Lockers, boxes, and closets in which life preservers are stowed shall

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not be capable of being locked, shall be plainly marked, and the life preservers contained therein shall be readily available.

(b) Life preservers stowed overhead shall be so supported that they can be quickly released and distributed among the passengers. Where life preservers are stowed at a height greater than 7 feet from the deck below, efficient means shall be provided for their immediate release and distribution to be operated by persons standing on the deck.

§ 75.40-25 Notices.

The notices described in § 78.47-47(a)(2) and (a)(3) of this chapter must be posted in each passenger cabin and stateroom and in conspicuous places about decks.

[CGD 76-033a, 45 FR 24476, Apr. 10, 1980]

§ 75.40-30 Personal flotation device lights.

(a) Each life preserver carried on a vessel engaged in ocean, coastwise, or Great Lakes service after June 30, 1980, except ferries, must have a personal flotation device light that is approved under subpart 161.012 of this chapter.

(b) Each light required by this section must be securely attached to the front shoulder area of a life preserver.

[CGD 76-028, 44 FR 38784, July 2, 1979]

§ 75.40-35 Retroreflective material.

(a) Each life preserver carried on a vessel after June 30, 1980, must have at least 200 sq. cm (31 sq. in.) of retroreflective material attached on its front side, at least 200 sq. cm on its back side, and at least 200 sq. cm of material on each of its reversible sides.

(b) Retroreflective material required by this section must be Type I material that is approved under subpart 164.018 of this chapter.

(c) The retroreflective material attached on each side of a life preserver must be divided equally between the upper quadrants of the side, and the material in each quadrant must be attached as closely as possible to the shoulder area of the life preserver.

[CGD 76-028, 44 FR 38784, July 2, 1979]

§ 75.40-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 75.40-5 through 75.40-25 shall be complied with insofar as the number of items of equipment and the method of stowage and notice is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 75.40-5 through 75.40-25 may be continued in service so long as they are serviceable and in good condition to the satisfaction of the Officer in Charge, Marine Inspection, except that:

(i) All kapok and fibrous glass life preservers which do not have plastic-covered pad inserts, as required by subparts 160.002 and 160.005 of subchapter Q (Specifications) of this chapter, shall be removed from service.

(2) [Reserved]

(3) All new installations or replacements shall meet the applicable specifications or requirements, except that:

(i) Cork and balsa wood life preservers, constructed in accordance with the applicable provisions of subpart 160.003 or 160.004 and manufactured as approved life preservers prior to July 1, 1965, may be accepted as new or replacement equipment required by this subchapter if such life preservers are serviceable and in good condition to the satisfaction of the Officer in Charge, Marine Inspection: *Provided, however,* That such life preservers bearing basic Approval No. 160.003 or 160.004 shall not be considered as approved equipment meeting the requirements for those passenger ships on an international voyage, constructed or contracted for on or after May 26, 1965.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGD 72-104R, 37 FR 14233, July 18, 1972]

Subpart 75.41—Exposure Suits

SOURCE: CGD 76-033a, 45 FR 24476, Apr. 10, 1980, unless otherwise noted.

§ 75.41-1 Applicability.

This subpart applies to each vessel when operating on the Great Lakes.

§ 75.41-5 Number and type required.

(a) Each vessel must at all times carry an adult size exposure suit for each person authorized to be carried during the Great Lakes winter season (September 16 through May 14).

(b) In addition to the exposure suits required by paragraph (a) of this section, the engine room, pilothouse, bow lookout, and each work station must have enough exposure suits to equal the number of persons normally on watch in, or assigned to, the station at one time. However, an exposure suit need not be provided at a watch or work station for a person whose cabin, stateroom, or berthing area (and the exposure suits stowed in that location) is readily accessible to the work station.

(c) Each vessel must carry enough child size exposure suits equal to 10 percent of the number of suits required by paragraph (a) of this section.

(d) Except as provided in paragraph (e) of this section, each exposure suit on a vessel must be of a type approved under subpart 160.071 of this chapter.

(e) An exposure suit in use on a vessel before November 1, 1980 may remain in use on the vessel in place of an exposure suit approved under Subpart 160.071 of this chapter if—

- (1) It is similar or identical to an approved suit, and
- (2) It is in serviceable condition.

[CGD 76-033a, 45 FR 24476, Apr. 10, 1980; 45 FR 29588, May 5, 1980]

§ 75.41-10 Stowage containers.

(a) No stowage container for exposure suits may be capable of being locked.

(b) Exposure suits stowed overhead must be supported in a manner that allows quick release for distribution.

(c) If exposure suits are stowed more than 2.1 m (7 ft.) above the deck, a means for quick release must be provided and must be capable of operation from the deck.

§ 75.43-1

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Subpart 75.43--Ring Life Buoys and Water Lights

§ 75.43-1 Application.

(a) The provisions of this subpart, with the exception of § 75.43-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.43-90.

§ 75.43-5 General.

(a) Each ring life buoy must be an approved type, constructed in accordance with subpart 160.050 of this chapter; except a ring life buoy that was approved under former subpart 160.009 of this chapter may be used if it is in good and serviceable condition.

(b) Each water light must be of an approved automatic electric type, constructed in accordance with subpart 161.010 of this chapter; except a water

light constructed in accordance with former subpart 160.012 or 161.001 of this chapter that was installed before January 1, 1972, may be retained in an existing installation as long as it is maintained in good condition.

(c) A self-activating smoke signal—

(1) Must be approved in accordance with Subpart 160.057 of this chapter; and

(2) May not be more than 3 years older than the stamped date of manufacture.

[CGFR 72-45, 37 FR 5031, Mar. 9, 1972, CGD 79-165a, 45 FR 64188, Sept. 29, 1980 and CGD 80-155a, 47 FR 10559, Mar. 11, 1982]

§ 75.43-10 Number required.

(a) The minimum number of approved 30-inch ring life buoys, and the minimum number of which shall have water lights attached, shall be in accordance with Table 75.43-10(a).

TABLE 75.43-10(a)

Length of vessel in feet	Ocean		All services other than ocean	
	Minimum number of ring life buoys	Minimum number of ring life buoys in column 2 which shall have water lights attached	Minimum number of ring life buoys	Minimum number of ring life buoys in column 4 which shall have water lights attached
Column 1	Column 2	Column 3	Column 4	Column 5
Under 100	8	8	2	0
100 and under 200	8	6	4	2
200 and under 300	8	6	6	2
300 and under 400	12	6	12	4
400 and under 600	18	9	18	9
600 and under 800	24	12	24	12
800 and over	30	15	30	15

(b) One of the ring life buoys on each side of the vessel shall have secured to it a line at least 15 fathoms in length. On vessels on an international voyage, the line shall be of a buoyant type.

(c) On vessels on an international voyage, at least two of the ring life buoys with water lights attached as required by Table 75.43-10(a) shall also be provided with an approved self-activated smoke signal and shall be capa-

ble of quick release from the navigating bridge.

(d) On vessels on an international voyage, the ring life buoys required by this section shall be orange in color.

§ 75.43-15 Distribution and securing.

(a) All ring life buoys shall be placed so as to be readily accessible to the persons on board, and their positions plainly indicated so as to be known to the persons concerned.

(b) The ring life buoys shall always be capable of being cast loose, and shall not be permanently secured in any way.

§ 75.43-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 75.43-5 through 75.43-15 shall be complied with insofar as the number of items of equipment and the method of stowage is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements set forth in §§ 75.43-5 through 75.43-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. All new installations or replacements shall meet the applicable specifications or requirements in this subpart.

(2) Any vessel attending offshore petroleum operations is not permitted to carry water lights which produce an open flame when used or actuated, and such lights shall be removed from the vessel.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGFR 66-72, 32 FR 384, Jan. 13, 1967]

Subpart 75.45—Line-Throwing Appliances

§ 75.45-1 Application.

(a) The provisions of this subpart, with the exception of § 75.45-90, shall apply to all vessels on an international voyage and all other vessels of 150 gross tons and over certificated for ocean or coastwise service, contracted for on or after November 19, 1952. Such vessels contracted for prior to November 19, 1952, shall meet the requirements of § 75.45-90.

§ 75.45-5 General.

(a) Line-throwing appliances of the impulse-projected rocket type, and the equipment auxiliary thereto, shall be of an approved type, constructed in accordance with subpart 160.040 of sub-

chapter Q (Specifications) of this chapter. The service use of rockets shall be limited to four years from date of manufacture, and replacement shall be made no later than the first annual inspection of the vessel after the date of expiration.

(b) Line-throwing appliances of the shoulder gun type, and the equipment auxiliary thereto, shall be of an approved type, constructed in accordance with subpart 160.031 of subchapter Q (Specifications) of this chapter.

§ 75.45-10 Type required.

(a) All vessels shall be fitted with an approved line-throwing appliance of the impulse-projected rocket type. However, vessels of less than 500 gross tons and not on an international voyage may substitute a line-throwing appliance of the shoulder gun type.

§ 75.45-15 Equipment for line-throwing appliances.

(a) The following equipment must be carried for each impulse-projected, rocket-type-line-throwing appliance required by this subpart. The equipment must be stowed with the appliance in a case or box, except for the service lines and the auxiliary line, which may be stowed in an accessible location nearby:

(1) Four rockets, two of which shall be of the buoyant type.

(2) Four service lines that—

(i) Are fabricated of the material specified in the approval of the appliance carried;

(ii) Have a length not less than that specified in the approval of the appliance carried;

(iii) Have a diameter from $\frac{1}{8}$ to $\frac{3}{8}$ inch;

(iv) Have a breaking strength of at least 500 pounds; and

(v) Are to be kept in a faking box or reel.

(3) Four prime ejector cartridges.

(4) One cleaning brush, one can of oil, and 12 wiping patches.

(5) One set of instructions from the manufacturer.

(6) One auxiliary line that is fabricated of—

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(i) Manila and is at least 1,500 feet long and 3 inches or more in circumference; or

(ii) A synthetic material and is at least 1,500 feet long and is certified by the manufacturer to have a breaking strength of at least 9,000 pounds and inhibited to resist the effects of ultraviolet rays.

(b) The following equipment must be carried for each shoulder gun type, line-throwing appliance required by this subpart. The equipment must be stowed with the appliance in a box or case, except for the service lines and the auxiliary line which may be stowed in an accessible location nearby:

(1) Ten service projectiles.

(2) Twenty-five cartridges.

(3) Four service lines to be kept in faking boxes or on reels and to be fabricated of—

(i) Flax or cotton, not less than 400 feet long, $\frac{3}{8}$ inch or more in circumference, and having a breaking strength of not less than 250 pounds; or

(ii) Very flexible woven or braided synthetic material, not less than 600 feet long $\frac{1}{2}$ inch or more in diameter, having a breaking strength of not less than 140 pounds and inhibited to resist the effects of ultraviolet rays.

(4) One cleaning rod with brush, one can of oil, and 12 wiping patches.

(5) One set of instructions from the manufacturer.

(6) One auxiliary line that is made of either—

(i) Manila and is at least 500 feet long and 3 inches or more in circumference; or

(ii) A synthetic material and is at least 500 feet long, and is certified by the manufacturer to have a minimum breaking strength of 9,000 pounds and inhibited to resist the effects of ultraviolet rays.

[CGD 72-135R, 37 FR 16179, Aug. 11, 1972]

§ 75.45-20 Accessibility.

(a) The line-throwing appliance and its equipment shall be kept easily and readily accessible and ready for use. No part of this equipment shall be used for any other purpose.

§ 75.45-25 Service recommendations.

(a) In firing the line-throwing appliances, the operating instructions and safety precautions furnished by the manufacturer should be followed.

§ 75.45-90 Vessels contracted for prior to November 19, 1952.

(a) Vessels of 150 gross tons and over in ocean or coastwise service, and vessels of any tonnage on an international voyage, contracted for prior to November 19, 1952, shall meet the requirements set forth in §§ 75.45-5 through 75.45-25. However, if a Lyle gun type line-throwing appliance is already in service on such vessel, it may be continued in use so long as it is in good and serviceable condition, but may not be replaced by a similar installation. Where Lyle guns are used, the following requirements shall be met:

(1) The equipment enumerated in this paragraph shall be carried for Lyle gun type line-throwing appliances. The equipment and the gun shall be stowed together in a suitable case or box. If the case or box does not meet the requirements of subpart 160.038 (Portable Magazine Chest) of subchapter Q (Specifications) of this chapter, the powder shall be separately stowed in a chest meeting such requirements.

(i) Six service projectiles.

(ii) Eighteen bags (2½ ounces each) of black powder marked "One-half normal charge for Lyle gun, 2½ ounces black powder" in a nonferrous metal screw top container.

(iii) One approved firing attachment with accessories consisting of lanyard, wrench, washer to fit between barrel and shoulder of firing attachment, blank plug for screwing into gun when firing attachment is not in place, cartridge extractor, and 25 primers in a watertight metal box.

(iv) Twenty-five paper wads.

(v) Four service lines, each 1,700 feet in length, of $\frac{1}{2}$ -inch to $\frac{3}{4}$ -inch diameter flax or manila, and having a breaking strength of at least 500 pounds, to be kept in faking boxes or on reels.

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(vi) One ramrod, 1 wire brush, 1 can of light petrolatum, and 12 wiping patches.

(vii) One tapered wooden plug for muzzle of gun when not in use.

(viii) One set of instructions furnished by the manufacturer of the gun.

(ix) One auxiliary line, 1,500 feet of 3-inch circumference manila.

(2) Accessibility requirements are the same as § 75.45-20.

Subpart 75.50—Embarkation Aids

§ 75.50-1 Application.

(a) The provisions of this subpart, with the exception of § 75.50-90, shall apply to all vessels contracted for on or after May 26, 1965. Vessels contracted for prior to May 26, 1965, shall meet the requirements of § 75.50-90.

§ 75.50-5 Ladders.

(a) Vessels certificated for ocean, coastwise or Great Lakes service shall have ladders as follows:

(1) All ladders required by this paragraph shall be of approved types, constructed in accordance with subpart 160.017 of subchapter Q (Specifications) of this chapter.

(2) All vessels shall have an approved Type II (chain suspension) ladder for each set of lifeboat davits, but existing ladders previously approved by the Coast Guard may be continued in service so long as they are maintained in good and serviceable condition. Such ladders shall be kept ready and convenient for use on the lifeboat deck, and shall reach from such deck to the vessel's light water line, no heel assumed.

(b) Vessels certificated for lakes, bays, and sounds service shall be provided with a suitable ladder for each set of lifeboat davits. Such ladders shall be reversible and free from garment-entangling projections. They shall be kept ready and convenient for use on the lifeboat deck, and shall reach from such deck to the vessel's light water line, no heel assumed.

(c) Vessels certificated for river service shall be provided with suitable ladders to enable passengers to descend conveniently to the lifeboats.

[CGFR 65-50, 30 FR 16926, Dec. 30, 1965, as amended by CGD 79-032, 49 FR 25455, June 21, 1984]

§ 75.50-7 Embarkation aids into inflatable liferafts.

(a) Where inflatable liferafts are substituted for lifeboats, unless freeboard at embarkation point is such that embarkation devices are not necessary, suitable arrangements shall be made for embarkation which shall include sufficient ladders or other suitable devices to facilitate embarkation into the inflatable liferafts when waterborne.

§ 75.50-10 Illumination for lifeboat launching operations.

A passenger vessel must have lights for the continuous illumination of lifeboats that are being launched and lifeboats that are in the water in the immediate vicinity of the vessel. For detailed requirements of the illumination, see subchapter J (Electrical Engineering Regulations) of this chapter.

[CGFR 72-45, 37 FR 5031, Mar. 9, 1972, as amended by CGD 74-125A, 47 FR 15231, Apr. 8, 1982]

§ 75.50-15 Illumination for inflatable life-raft launching operations.

A passenger vessel that is equipped with Coast Guard approved launching devices must have lights that illuminate the entire process of the launch from the stowed position of the life-raft until it is waterborne. Other passenger vessels must have lights that illuminate the stowage position of life-rafts. For detailed requirements of the illumination, see subchapter J (Electrical Engineering Regulations) of this chapter.

[CGFR 72-45, 37 FR 5031, Mar. 9, 1972, as amended by CGD 74-125A, 47 FR 15231, Apr. 8, 1982]

§ 75.50-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 75.50-5 through 75.50-15 shall be complied with insofar as the number

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of items of equipment and the method of stowage is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications or requirements of §§ 75.50-5 through 75.50-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. All new installations or replacements shall meet the applicable specifications or requirements in this subpart.

Subpart 75.55—Portable Radio Apparatus

§ 75.55-1 Required on international voyage.

(a) Any vessel on an international voyage shall be provided with a portable radio apparatus complying with the requirements of the Federal Communications Commission, unless at least one lifeboat on each side of the vessel is fitted with a fixed radio installation. The apparatus shall be so designed that it may be used by an unskilled person. Such apparatus shall be kept in the radioroom, chartroom, or other suitable location ready to be moved to one or other of the lifeboats in the event of an emergency. See also § 75.10-10(a)(4).

Subpart 75.60—Emergency Position Indicating Radiobeacon (EPIRB)

§ 75.60-1 Emergency position indicating radiobeacon (EPIRB).

(a) Each vessel in ocean and coastwise service must have an approved Class A emergency position indicating radiobeacon (EPIRB) that is—

- (1) Operative;
- (2) Stowed where it is readily accessible for testing and use; and
- (3) Stowed in a manner so that it will float free if the vessel sinks.

(b) Compliance with paragraph (a) of this section is not required for a coastwise vessel—

- (1) That carries a VHF radiotelephone that complies with the FCC requirements; and
- (2) Whose Certificate of Inspection is endorsed for a route which does not

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extend more than 20 miles from the harbor of safe refuge.

(c) Each vessel certificated for Great Lakes service, and each other vessel operating on the Great Lakes, shall not be required to have a Class A EPIRB meeting paragraph (a) of this section unless it must have two Class C EPIRBs installed—

- (1) In a weather tight enclosure;
- (2) In a readily accessible location;
- (3) One on each side of the vessel; and
- (4) At or near the principal engine control stations.

[CGD 73-24R, 39 FR 10139, Mar. 1974; as amended by CGD 80-024, 49 FR 10139, Oct. 16, 1984]

Subpart 75.90—Ship's Distress Signals

§ 75.90-1 Application.

(a) The provisions of this subpart shall apply to all vessels, except as specifically noted.

§ 75.90-5 Vessels in ocean or coastwise service.

(a) All vessels in ocean or coastwise service shall carry all vessels in coastwise service shall carry within the pilothouse or near the navigator's bridge, 12 approved handheld rocket-propelled parachute flare distress signals constructed in accordance with subpart 160.03 of chapter Q (Specifications) of this chapter.

(b) [Reserved]

(c) All pyrotechnic signals shall be stowed in a portable watertight container.

(d) The service use of the signals shall be limited to a period of 5 years from the date of manufacture and replacement shall be required no later than the first annual inspection of the vessel after the date of certification.

[CGFR 65-50, 30 FR 16926, Dec. 3, 1965; amended by CGD 72-104R, 37 FR 10139, July 18, 1972]

§ 75.90-10 Vessels in Great Lakes service.

(a) All vessels of 150 gross tons or over in Great Lakes service shall carry within the pilothouse or on

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gator's bridge, twelve approved hand-held red flare distress signals contained in a portable watertight container, constructed in accordance with subpart 160.021 or subpart 160.023 of subchapter Q (Specifications) of this chapter. The service use of the distress signals shall be limited to a period of three years from date of manufacture, and replacement shall be made no later than the first annual inspection of the vessel after the date of expiration.

PART 76—FIRE PROTECTION EQUIPMENT

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- 76.23-5 Zoning.
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- 76.25-5 Zoning.
- 76.25-10 Size and arrangement of sprinkler heads and pipe sizes.
- 76.25-15 Pumps and water supply.
- 76.25-20 Pressure tank.
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 76.33-10 Location and spacing of accumulators.
 76.33-15 Piping.
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 76.35-5 Zoning.
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- 76.50-1 Application.
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- 76.60-1 Application.
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76.60-10 Location.

AUTHORITY: 46 U.S.C. 3306; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16940, Dec. 30, 1965, unless otherwise noted.

Subpart 76.01—Application

§ 76.01-1 General.

(a) The provisions of this part shall apply to all vessels except as specifically noted in this part.

§ 76.01-5 Equipment installed but not required.

(a) Where fire detecting or extinguishing systems or equipment are not required, but are installed, the system or equipment and its installation shall meet the requirements of this part.

Subpart 76.05—Fire Detecting and Extinguishing Equipment, Where Required

§ 76.05-1 Fire detecting systems.

(a) Approved fire detecting systems shall be installed in locations as required by Table 76.05-1(a) on the following vessels:

- (1) Any vessel on an international voyage.
- (2) Any vessel of more than 150 feet in length having sleeping accommodations for passengers.

TABLE 76.05-1(a)

Space	Detecting systems	Fixed extinguishing systems
Safety areas		
Wheelhouse or fire-control room	None required ¹	None required ¹
Stairway and elevator enclosures	do ¹	Do ¹
Communication corridors	do ¹	Do ¹
Lifesboat embarkation and lowering stations	do ¹	Do ¹
Radio room	do ¹	Do ¹
Accommodations		
Staterooms, toilet spaces, isolated pantries, etc.	do ¹	Do ¹
Offices, lockers, and isolated storerooms	Electric, pneumatic, or automatic sprinkling ¹	Do ¹
Public spaces	None required with 20-minute patrol. Electric, pneumatic, or automatic sprinkling with 1 hour patrol ¹ .	Do ¹
Open decks or enclosed promenades	None required	Do ¹
Service spaces		
Galleys	do ¹	Do ¹

TABLE 76.05-1(a)—Continued

Space	Detecting systems	Fixed extinguishing systems
Men's pantries	do ¹	Do. ¹
Motion picture booths and film lockers	Electric, pneumatic, or automatic sprinkling ^{1,2}	Do. ^{1,3}
Paint and lamp rooms	Smoke detecting ³	Carbon dioxide. ⁴
Inaccessible baggage, mail, and specie rooms and storerooms	Smoke detecting ³	Carbon dioxide. ⁴
Accessible baggage, mail, and specie rooms and storerooms	Electric, pneumatic, or automatic sprinkling	None required. ¹
Refrigerated storerooms	None required	Do.
Carpenter, valet, photographic, and printing shops, sales rooms, etc.	Electric, pneumatic, or automatic sprinkling	Do. ¹
Machinery spaces		
Coal fired boilers, bunker and boiler space	None required	Do. ¹
Oil fired boilers. Spaces containing oil fired boilers, either main or auxiliary, their fuel oil service pumps, and/or such other fuel oil units as the heaters, strainers, valves, manifolds, etc., that are subject to the discharge pressure of the fuel oil service pumps, together with adjacent spaces to which oil can drain.	do	Carbon dioxide or foam. ⁴
Internal combustion or gas turbine propelling machinery spaces	do	Carbon dioxide. ⁴
Electric propulsive motors or generators of open type	do	None required.
Enclosed ventilating systems for motors and generators of electric propelling machinery	do	Carbon dioxide (in ventilating system). ¹
Auxiliary spaces, internal combustion or gas turbine	do	Carbon dioxide. ⁴
Auxiliary spaces, electric motors or generators	do	None required.
Auxiliary spaces, steam	do	Do.
Trunks to machinery spaces	do	Do.
Fuel tanks	do	Do. ³
Cargo spaces		
Inaccessible during voyage (combustible cargo), including trunks (excluding tanks)	Smoke detecting	Carbon dioxide. ⁴
Accessible during voyage (combustible cargo)	Smoke detecting, electric, pneumatic or automatic sprinkling	Automatic or manual sprinkling.
Vehicular deck (except where no overhead deck is 30 feet in length or less)	None required	Manual sprinkling.
Cargo oil tanks	do	Carbon dioxide or foam. ⁴
Specialty suitable for vehicles	Smoke detecting, electric, pneumatic or automatic sprinkling	Carbon dioxide, automatic or manual sprinkling.

¹ Vessels of 100 gross tons and over contracted for on or before May 27, 1936, and having combustible joiner work, shall be fitted with an automatic sprinkling system, except in relatively incombustible spaces.

² Sprinkler heads may be attached to sanitary system provided electrical or pneumatic detecting is installed.

³ On vessels contracted for prior to November 19, 1952, electric or pneumatic detecting may be substituted.

⁴ On vessels contracted for prior to January 1, 1962, a steam smothering system may be accepted. However, although existing steam smothering systems may be repaired, replaced, or extended, no new system contracted for on or after January 1, 1962, will be permitted.

⁵ Protection of auxiliary boilers, fuel oil units, valves and manifolds not required on vessels contracted for prior to November 19, 1952.

⁶ Not required on vessels of less than 300 gross tons (except on an international voyage) using fuel with a flashpoint higher than 110° F., where the space is normally manned.

⁷ Not required on vessels contracted for prior to November 19, 1952.

⁸ Not required on vessels of less than 300 gross tons nor on vessels contracted for prior to November 19, 1952, except where fuel, including starting fuel, has a flashpoint of 110° F. or less.

⁹ Where fuel having a flashpoint of 110° F. or lower is used, the space containing the fuel tanks shall be protected by a carbon dioxide system.

(3) Any vessel of 150 feet or less in length, not on an international voyage, having sleeping accommodations for 50 or more passengers. Vessels in this category are not required to have a detecting system in the cargo spaces.

(b) The arrangements and details of the fire detecting systems shall be as set forth in subparts 76.25 through 76.33.

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[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 65-33, 31 FR 15282, Dec. 6, 1966]

§ 76.05-5 Manual alarm system.

(a) An approved manual alarm system shall be installed in all areas, other than the main machinery spaces, which are normally accessible to the passengers or crew on any vessel having sleeping accommodations for passengers or on any vessel on an international voyage.

(b) The arrangement and details of the manual alarm system shall be as set forth in subpart 76.35.

§ 76.05-10 Supervised patrol system.

(a) A supervised patrol or watchman system shall be provided on all vessels as set forth in §§ 78.30-10 and 78.30-15 of this subchapter.

§ 76.05-15 Fire main system.

(a) Fire pumps, hydrants, hose, and nozzles shall be installed on the following vessels:

- (1) On all self-propelled vessels.
- (2) After July 1, 1957, on all barges with sleeping accommodations for more than six persons.

(b) The arrangement and details of the fire main system shall be as set forth in subpart 76.10.

§ 76.05-20 Fixed fire extinguishing systems.

(a) Approved fire extinguishing systems shall be installed, as required by Table 76.05-1(a) on the following vessels:

- (1) On all self-propelled vessels.
- (2) After July 1, 1957, on all barges with sleeping accommodations for more than six persons.

(b) The arrangements and details of the fixed fire extinguishing systems shall be as set forth in subparts 76.13 through 76.25.

§ 76.05-25 Hand portable fire extinguishers and semiportable fire extinguishing systems.

(a) Approved hand portable fire extinguishers and semiportable fire extinguishing systems shall be installed on all vessels as set forth in subpart 76.50.

§ 76.05-30 Sand.

(a) On vessels of over 1,000 gross tons there shall be in each space containing oil fired boilers a metal receptacle containing not less than 10 cubic feet of sand, sawdust impregnated with soda, or other approved dry materials together with a scoop or shaker for distributing the same. On vessels of 1,000 gross tons or less, at least 5 cubic feet of such materials shall be similarly carried.

(b) In lieu of the requirements in paragraph (a) of this section, one B-II fire extinguisher may be substituted.

Subpart 76.10—Fire Main System, Details

§ 76.10-1 Application.

(a) The provisions of this subpart, with the exception of § 76.10-90, shall apply to all fire main installations contracted for on or after May 26, 1965. Installations contracted for prior to May 26, 1965, shall meet the requirements of § 76.10-90.

§ 76.10-3 Water availability.

(a) On all vessels on an international voyage, regardless of the date of construction, water pressure from the firemain protecting enclosed spaces shall be immediately available by maintenance of water pressure on the firemain at all times when passengers are aboard the vessel, or by remote control of fire pumps which control shall be easily operable and readily accessible.

(b) Where approved remote controls are not installed, an alarm shall be fitted which will sound in the engine room indicating a drop of water pressure on the system.

[CGFR 67-87, 32 FR 19181, Dec. 20, 1967]

§ 76.10-5 Fire pumps.

(a) Vessels shall be equipped with independently driven fire pumps in accordance with Table 76.10-5(a).

TABLE 76.10-5(a)

Gross tons		Minimum number of pumps		Hose and hydrant size, inches	Nozzle orifice size, inches	Length of hose, feet
Over	Not over	International voyage	Other			
	100	2	1	1½	¾	50
100	500	2	1	1½	¾	50
500	1,500	2	2	1½	¾	50
1,500	4,000	2	2	1½	¾	150
4,000		3	3	1½	¾	150

* 75 feet of 1½-inch hose and ¾-inch nozzles may be used where specified by § 76.10-10(b).

(b) Vessels on an international voyage shall have a minimum total fire pump capacity at least equal to two-thirds of the required total bilge pump capacity, but in no case less than that required by this section. Each of the required fire pumps shall have a capacity not less than 80 percent of the total required capacity divided by the number of required pumps.

(c) Each pump shall be capable of delivering water simultaneously from the two highest outlets at a Pitot tube pressure of approximately 50 p. s. i. Where one or both of these outlets is a 1½-inch siamese fitting, both branches of the siamese fitting at each such outlet shall be utilized for the purpose of this requirements.

(d) Fire pumps shall be fitted on the discharge side with relief valves set to relieve at 25 p. s. i. in excess of the pressure necessary to maintain the requirements of paragraph (c) of this section or 125 p. s. i., whichever is greater. Relief valves may be omitted if the pumps, operating under shutoff conditions, are not capable of developing a pressure exceeding this amount.

(e) Fire pumps shall be fitted with a pressure gauge on the discharge side of the pumps.

(f) Fire pumps may be used for other purposes provided at least one of the required pumps is kept available for use on the fire system at all times. Unless specifically approved by the Commandant, no branch lines shall be connected to the fire mains for other than fire and deck wash purposes. Other discharge lines shall lead from a discharge manifold near the fire pump. In no case shall a pump having

connection to an oil line be used as a fire pump.

(g) The total area of the pipes leading from a pump shall not be less than the discharge area of the pump.

(h) On vessels with oil fired boilers, either main or auxiliary, or with internal combustion propulsion machinery, where 2 fire pumps are required, they shall be located in separate spaces and the arrangement of pumps, sea connections, and sources of power shall be such as to insure that a fire in any one space will not put all of the fire pumps out of operation. However, in vessels of less than 300 feet in length, where it is shown to the satisfaction of the Commandant that it is unreasonable or impracticable to meet this requirement due to the size or arrangement of the vessel, or for other reasons, the installation of a total flooding carbon dioxide system may be accepted as an alternate method of extinguishing any fire which would affect the powering and operation of at least one of the required fire pumps.

§ 76.10-10 Fire hydrants and hose.

(a) The size of fire hydrants, hose, and nozzles and the length of hose required shall be as noted in Table 76.10-5(a).

(b) In lieu of the 2½-inch hose and hydrants specified in Table 76.10-5(a), on vessels over 1,500 gross tons, the hydrants in interior locations may have siamese connections for 1½-inch hose. In these cases the hose shall be 75 feet in length, and only one hose will be required at each fire station; however, if all such stations can be satisfactorily served with 50-foot lengths, 50-foot hose may be used.

(c) On vessels of 1,000 gross tons and over there shall be at least one shore connection to the fire main available to each side of the vessel in an accessible location. Suitable cut-out valves and check valves shall be provided. Suitable adaptors also shall be provided for furnishing the vessel's shore connections with couplings mating those on the shore fire lines. Such vessels on an international voyage, shall be provided with at least one international shore connection. Facilities shall be available enabling such a con-

nection to be used on either side of the vessel. The international shore connection shall be in accordance with specification subpart 162.034 of subchapter Q (Specifications) of this chapter.

(d) Fire hydrants shall be of sufficient number and so located that any part of the vessel, other than main machinery spaces, accessible to the passengers or crew while the vessel is being navigated and all cargo holds may be reached with at least two streams of water from separate outlets, at least one of which shall be from a single length of hose. For the purpose of this requirement, all watertight doors and all doors in main vertical zone bulkheads and stairway enclosures shall be closed, although hose ports may be installed in doors other than watertight doors and doors in main vertical zone bulkheads for the passage of the hose. In main machinery spaces, all portions at such spaces shall be capable of being reached by at least two streams of water, each of which shall be from a single length of hose from separate outlets; however, this requirement need not apply to shaft alleys containing no assigned space for the stowage of combustibles. Fire hydrants shall be numbered as required by § 78.47-20 of this subchapter.

(e) All parts of the fire main located on exposed decks shall either be protected against freezing or be fitted with cut-out valves and drain valves so that the entire exposed parts of such piping may be shut off and drained in freezing weather. Except when closed to prevent freezing, such valves shall be sealed open.

(f) The outlet at each fire hydrant shall be provided with a cock or valve fitted in such a position that the fire hose may be removed while the fire main is under pressure. In addition, the outlet shall be limited to any position from the horizontal to the vertical pointing downward, so that the hose will lead horizontally or downward to minimize the possibility of kinking.

(g) Each fire hydrant must have at least one length of fire hose, a spanner, and a hose rack or other device for stowing the hose.

(h) Fire hose shall be connected to the outlets at all times. However, on open decks where no protection is afforded to the hose in heavy weather, or where the hose may be liable to damage from the handling of cargo the hose may be temporarily removed from the hydrant and stowed in an accessible nearby location.

(i) Fire hose shall not be used for any other purpose than fire extinguishing and fire drills.

(j) Each fire hose on each hydrant must have a combination solid stream and water spray fire hose nozzle that is approved under subpart 162.027 of this chapter.

(j-1) The following must have low-velocity water spray applicators that are approved under subpart 162.027 of this chapter.

(1) In the accommodation and service areas, two fire hoses having approved combination nozzles.

(2) In each propulsion machinery space containing an oil-fired boiler, internal combustion machinery, or oil fuel unit on a vessel on an international voyage or of 1000 gross tons or more, each firehose having an approved combination nozzle. The length of each applicator must be 4 feet.

(j-2) Fixed brackets, hooks, or other means for stowing an applicator must be next to each fire hydrant that has an applicator under paragraph (j) of this section.

(1) All nozzles shall be of good grade bronze or equivalent metal.

(2) Where smooth bore type nozzles are used, they shall have an orifice of the size indicated in Table 76.10-5(a).

(3) Where combination solid stream and water spray fire hose nozzles are used, they shall be of approved type. New installations and replacements shall be constructed in accordance with subpart 162.027 of subchapter Q (Specifications) of this chapter. The detachable applicator shall be stowed adjacent to the fire hydrant, except where combination nozzles are not required, in which case the applicator may be stowed at the discretion of the master.

(4) Except as noted in paragraph (j-2)(5) of this section, all hose nozzles shall be of either the smooth bore

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type or the approved type combination nozzle.

(5) On all vessels on an international voyage, and all other vessels of 1,000 gross tons and over, the hose attached to the hydrants in propulsion machinery spaces containing oil-fired boilers, internal combustion machinery, or oil fuel units shall be fitted with an approved combination nozzle. The applicator shall be not more than 6 feet in length.

(6) Where approved combination nozzles are used but not required, the applicator with low velocity fog spray head and the self-cleaning strainer may be fitted but will not be required.

(k) Fire hydrants, nozzles, and other fittings shall have threads to accommodate the hose connections noted in paragraph (l) of this section.

(l) Firehose and couplings requirements:

(1) Couplings shall be of brass, bronze, or other equivalent metal. For installations on vessels contracted for on or after July 1, 1954, National Standard fire hose coupling threads shall be used for the 1½-inch and 2½-inch sizes, i.e., 9 threads per inch for 1½-inch hose and 7½ threads per inch for 2½-inch hose.

(2) Unlined hose shall not be used in the machinery spaces.

(3) Each section of fire hose used after January 1, 1980 must be lined commercial fire hose that conforms to Underwriters' Laboratories, Inc. Standard 19 or Federal Specification ZZ-H-451E. Hose that bears the label of Underwriters' Laboratories, Inc. as lined fire hose is accepted as conforming to this requirement. Each section of replacement fire hose or any section of new fire hose placed aboard a vessel after January 1, 1977 must also conform to the specification required by this paragraph.

[CGFR 65-50, 30 FR 15940, Dec. 30, 1965, as amended by CGFR 67-87, 32 FR 19181, Dec. 20, 1967; CGD 74-60, 41 FR 43151, Sept. 30, 1976; CGD 76-086, 44 FR 2392, Jan. 11, 1979]

§76.10-15 Piping.

(a) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

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(b) All distribution cut-off valves shall be marked as required by § 78.47-15 of this subchapter.

(c) For vessels on an international voyage, the diameter of the fire main shall be sufficient for the effective distribution of the maximum required discharge from two fire pumps operating simultaneously. This is in addition to § 76.10-5(c). The discharge of this quantity of water through hoses and nozzles at a sufficient number of adjacent hydrants shall be at a minimum Pitot tube pressure of approximately 50 pounds per square inch.

§ 76.10-90 Installations contracted for prior to May 26, 1965.

(a) Installations contracted for prior to May 26, 1965, shall meet the following requirements:

(1) Except as specifically modified by this paragraph, the requirements of §§ 76.10-5 through 76.10-15 shall be complied with insofar as the number and general type of equipment is concerned. Existing equipment, except firehose nozzles and low-velocity water spray applicators, previously approved but not meeting the applicable requirements of §§ 76.10-5 through 76.10-15 may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs, alterations, and replacements may be permitted to the same standards as the original installation. However, all new installations or major replacements shall meet the applicable requirements in this part.

(2) All vessels contracted for prior to November 19, 1952, shall be fitted with fire pumps, hoses, and nozzles in accordance with Table 76.10-90(a)(2).

TABLE 76.10-90(a)(2)

Gross tons		Minimum number of pumps	Minimum hose and hydrant size, inches	Nozzle orifice size, inches	Length of hose, feet
Over	Not over				
100	4,000	2	1½	1½	150
4,000		3	1½	1½	150

¹ May use 50 feet of 2½-inch hose with 1½-inch nozzles for exterior stations. May use 75 feet of 1½-inch hose with 1½-inch nozzles for interior station in which case such interior stations shall have siamese connections.

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(3) When reasonable and practicable, where two or more fire pumps are required, they shall not all be located in the same space. Vessels on an international voyage shall, however, comply with the requirements of § 76.10-5(h).

(4) The general requirements of § 76.10-5(c) through (h), § 76.10-10(d) through (i), and § 76.10-15, shall be complied with insofar as is reasonable and practicable. In addition, vessels on an international voyage shall comply with the requirements of § 76.10-5(b).

(5) Vessels on an international voyage shall comply with the requirements of § 76.10-3.

(6) Before February 12, 1981, each firehose nozzle must meet § 76.10-10(j), and each low-velocity water spray applicator must meet § 76.10-10(j-1), except if the nozzle or applicator was approved under subpart 162.027 of this chapter before May 26, 1965—

(i) The nozzle must have a high-velocity water spray tip that meets § 162.027-2(c) of this chapter, and the applicator must have a low-velocity water spray head that meets § 162.027-2(c) of this chapter; or

(ii) The fire hydrant or nozzle must have a self-cleaning strainer that meets the requirements under which the nozzle was approved.

(7) After February 11, 1981, each new or replacement nozzle must meet § 76.10-10(j), and each low-velocity water spray applicator must meet § 76.10-10(j-1).

[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 67-87, 32 FR 19181, Dec. 20, 1967; CGD 76-086, 44 FR 2392, Jan. 11, 1979]

Subpart 76.13—Steam Smothering System, Details

§ 76.13-1 Application.

(a) In accordance with §§ 76.05-1 and 76.05-20, steam smothering systems are not permitted on vessels contracted for on or after January 1, 1962, nor for new installations on vessels contracted for prior to that date.

(b) Where a steam smothering system is installed, the provisions of this subpart shall apply.

(c) This does not preclude the introduction of steam into such confined spaces as boiler casings or into tanks for steaming out purposes. Such installations are not to be considered as part of any required fire extinguishing system.

§ 76.13-90 Installations contracted for prior to January 1, 1962.

(a) Installations contracted for prior to July 1, 1935, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original installation.

(2) The main pipes and their branches to the cargo compartments and similar spaces shall be not less than 1½-inch pipe size and shall emanate from not more than two stations in easily accessible locations. If located on the open deck, the distribution manifolds shall be suitably protected by an enclosing cabinet or casing which shall be marked as required by § 78.47-17 of this subchapter. Each branch line shall have a valve at the manifold which shall be marked as required by § 78.47-15 of this subchapter.

(3) Branches to paint lockers and similar small spaces may be taken from the nearest steam supply line and shall be not less than ¾-inch pipe size. The valve shall be marked as required by § 78.47-15 of this subchapter.

(b) Installations contracted for on or after July 1, 1935, but prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials and facilities previously approved will be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

faction of the Officer in Charge, Marine Inspection. Minor repairs, and alterations may be made to the same standard as the original installation.

(2) Steam shall be available from the main or auxiliary boilers to provide at least one pound of steam per hour for each 50 cubic feet of gross volume of the largest compartment protected. Where reasonable and practicable, the steam pressure shall be at least 100 p.s.i.

(3) The piping system shall meet the general requirements of paragraphs (c)(5) through (12) of this section insofar as is reasonable and practicable.

(4) The minimum size of distribution piping and the number of branches to the various spaces shall be as given in Table 76.13-90(b)(4) or by the following formula:

$$D = \sqrt{C/30,000} \quad (1)$$

where:

D=Required diameter of pipe in inches.

C=Volume of compartment in cubic feet.

TABLE 76.13-90(b)(4)

Volume of compartment in cubic feet		Number of branches to compartment	Pipe size of each branch, inches
Over	Not over		
	30,000	1	1
30,000	48,000	1	1 1/4
48,000	67,000	1	1 1/2
67,000	94,000		1 3/4
94,000	135,000	2	1 3/4
135,000	203,000	3	1 3/4

(5) The minimum size of the steam supply line from the boiler to the distribution and manifold shall be as given by the following formula:

$$D = \sqrt{C/80,000} \quad (2)$$

where:

D=Diameter of pipe in inches.

C=Volume of all compartments in cubic feet.

(c) Installations contracted for on or after November 19, 1952, but prior to January 1, 1962, shall meet the following requirements:

(1) Existing arrangements, materials and facilities previously approved will be considered satisfactory so long as

they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standard as the original installation.

(2) Steam shall be available from main or auxiliary boilers to provide at least one pound of steam per hour for each 12 cubic feet of the gross volume of the largest compartment to be protected.

(3) Although separate piping shall be led to each cargo hold and 'tween deck, for the purpose of determining the amount of steam required, a cargo compartment will be considered as the space between adjacent watertight or firescreen bulkheads and from tank top or lowest deck to the deck head of the uppermost deck on which cargo may be carried. If a trunk extends beyond such deck, the trunk space shall be included. Tonnage openings shall be considered as sealed for this purpose.

(4) A steam pressure of at least 100 p.s.i. shall be available unless specifically approved otherwise.

(5) All piping, valves, and fittings shall meet the applicable requirements of subchapter F (Marine Engineering) of this chapter.

(6) The distribution piping shall emanate from not more than three stations in easily accessible locations on the weather deck, and shall lead to the lower portion of each cargo hold, cargo 'tween deck, and other compartments protected. However, lines to paint lockers and similar small spaces may be taken from the nearest steam supply line.

(7) The distribution line to each compartment shall be fitted with a shutoff valve. The valve shall be marked as required by § 78.47-15 of this subchapter.

(8) The manifold steam supply line shall be fitted with a master valve at the manifold.

(9) Provisions shall be made for draining the manifold and distribution lines to prevent them from freezing.

(10) If located on the open deck, the distribution manifolds shall be suitably protected by an enclosing cabinet or casing. In any case, it shall be

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marked as required by § 78.47-17 of this subchapter.

(11) Piping shall not be led into or through spaces accessible to the passengers or crew while the vessel is being navigated, with the exception of machinery spaces and corridors. However, in special cases, arrangements to run piping through such spaces may be specifically approved by the Commandant, provided all joints are welded, suitable expansion bends are provided, and all piping is extra heavy.

(12) Piping shall be used for no other purpose except that it may be incorporated with the fire detecting system, and where suitable provisions are made, it may be used for steaming out tanks.

(13) The minimum size and number of branches to the various spaces shall be as given in Table 76.13-90(c)(13). The distribution piping from the manifold to the branch lines shall have an area approximately equal to the combined areas of the branch lines served.

TABLE 76.13-90(c)(13)

Volume of spaces in cubic feet		Number of branches to spaces	Pipe size of each branch, inches
Over	Not over		
	500	1	¾
500	5,000	1	1
5,000	15,000	1	1¼
15,000	30,000	1	1½
30,000	60,000	2	1½
60,000	100,000	3	1½
100,000	190,000	4	1½

(14) The steam supply line from the boiler to any distribution manifold shall be of sufficient size to supply all the branch lines to the largest compartment and to all adjacent compartments.

[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15283, Dec. 6, 1966]

Subpart 76.15—Carbon Dioxide Extinguishing Systems, Details

§ 76.15-1 Application.

(a) Where a carbon dioxide extinguishing system is installed, the provisions of this subpart, with the exception of § 76.15-90, shall apply to all in-

stallations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.15-90.

(b) The requirements of this subpart are based on a "high pressure system", i.e., one in which the carbon dioxide is stored in liquid form at atmospheric temperature. Details for "low pressure systems", i.e., those in which the carbon dioxide is stored in liquid form at a continuously controlled low temperature, may be specifically approved by the Commandant where it is demonstrated that a comparable degree of safety and fire extinguishing ability is achieved.

§ 76.15-5 Quantity, pipe sizes, and discharge rate.

(a) *General.* The amount of carbon dioxide required for each space shall be as determined by the following paragraphs in this section.

(b) *Total available supply.* A separate supply of carbon dioxide need not be provided for each space protected. The total available supply shall be at least sufficient for the space requiring the greatest amount.

(c) *Cargo spaces.* (1) The number of pounds of carbon dioxide required for each space in cubic feet shall be equal to the gross volume of the space in cubic feet divided by 30.

(2) Although separate piping shall be led to each cargo hold and 'tween deck, for the purpose of determining the amount of carbon dioxide required, a cargo compartment will be considered as the space between adjacent watertight or firescreen bulkheads and from the tank top or lowest deck to the deck head of the uppermost space on which cargo may be carried. If a trunk extends beyond such deck, the trunk volume shall be included. Tonnage openings shall be considered as sealed for this purpose.

(3) Branch lines to the various cargo holds and 'tween decks shall not be less than ¾ inch standard pipe size.

(4) No specific discharge rate need be applied to such systems.

(d) *Enclosed ventilation systems for rotating electrical propulsion equipment.* (1) The number of pounds of

carbon dioxide required for the initial charge shall be equal to the gross volume of the system divided by 10 for systems having a volume of less than 2,000 cubic feet, and divided by 12 for systems having a volume of 2,000 cubic feet or more.

(2) The piping for the initial charge shall be in accordance with Table 76.15-5(e)(4), and the discharge of the required amount shall be completed within two minutes.

(3) In addition to the above there shall be sufficient carbon dioxide available to permit delayed discharges of such quantity as to maintain at least a 25 percent concentration until the equipment can be stopped. If the initial discharge is such as to achieve this concentration until the equipment is stopped, no delayed discharge need be provided.

(4) The piping for the delayed discharge shall not be less than ½ inch standard pipe size, and no specific discharge rate need be applied to such systems. On small systems, this pipe may be incorporated with the initial discharge piping.

(e) *Machinery spaces, paint lockers, tanks, and similar spaces.* (1) Except as provided in paragraph (e)(3) of this section, the number of pounds of carbon dioxide required for each space shall be equal to the gross volume of the space divided by the appropriate factor noted in Table 76.15-5(e)(1). If fuel can drain from the compartment being protected to an adjacent compartment, or if the compartments are not entirely separate, the requirements for both compartments shall be used to determine the amount of carbon dioxide to be provided. The carbon dioxide shall be arranged to discharge into both such compartments simultaneously.

TABLE 76.15-5(e)(1)

Gross volume of compartment, cubic feet		Factor
Over	Not over	
.....	500	15
500	1,600	16
1,600	4,500	18
4,500	50,000	20
50,000		22

(2) For the purpose of the above requirement of this paragraph, the volume of a machinery space shall be taken as exclusive of the normal machinery casing unless the boiler, internal combustion machinery, or fuel oil installations extend into such space in which case the volume shall be taken to the top of the casing or the next material reduction in casing area, whichever is lower. For installations contracted for on or after October 1, 1959, "normal machinery casing" and "material reduction in casing area" shall be defined as follows:

(i) By "normal machinery casing" shall be meant a casing the area of which is not more than 40 percent of the maximum area of the machinery space.

(ii) By "material reduction in casing area" shall be meant a reduction to at least 40 percent of the casing area.

(3) For vessels on an international voyage contracted for on or after May 26, 1965, the amount of carbon dioxide required for a space containing propulsion boilers or internal combustion propulsion machinery shall be as given by paragraphs (e)(1) and (2) of this section or by dividing the entire volume, including the casing, by a factor of 25, whichever is the larger.

(4) Branch lines to the various spaces shall be as noted in Table 76.15-5(e)(4).

TABLE 76.15-5(e)(4)

Maximum quantity of carbon dioxide required, pounds	Minimum nominal pipe size, inches	Maximum quantity of carbon dioxide required, pounds	Minimum nominal pipe size, inches
100	½	2,500	2 ½
225	¾	4,450	3
300	1	7,100	3 ½
600	1 ¼	10,450	4
1,000	1 ½	15,000	4 ½
2,450	2		

(5) Distribution piping within the space shall be proportioned from the supply line to give proper distribution to the outlets without throttling.

(6) The number, type, and location of discharge outlets shall be such as to give a uniform distribution throughout the space.

(7) The total area of all discharge outlets shall not exceed 85 percent nor be less than 35 percent of the nominal cylinder outlet area or the area of the supply pipe, whichever is smaller. The nominal cylinder outlet area in square inches shall be determined by multiplying the factor 0.0022 by the number of pounds of carbon dioxide required, except that in no case shall this outlet area be less than 0.110 square inch.

(8) The discharge of at least 85 percent of the required amount of carbon dioxide shall be complete within 2 minutes.

(f) *Spaces specially suitable for vehicles.* (1) The number of pounds of carbon dioxide required shall be equal to the gross volume of the largest "tight" space divided by 22. In no case, however, shall it be less than that required by paragraph (c) of this section.

(2) The arrangement of valves and piping shall be such that the required quantity of carbon dioxide may be discharged into any "tight" space. The discharge of the required quantity of carbon dioxide shall be completed within 2 minutes.

(3) Except as noted in paragraphs (f) (1) and (2) of this section, the requirements of paragraph (e) of this section shall apply.

[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR, 66-33, 31 FR 15283, Dec. 6, 1966]

§ 76.15-10 Controls.

(a) Except as noted in § 76.15-20(b), all controls and valves for the operation of the system shall be outside the space protected, and shall not be located in any space that might be cut off or made inaccessible in the event of fire in any of the spaces protected.

(b) If the same cylinders are used to protect more than one hazard, a manifold with normally closed stop valves shall be used to direct the carbon dioxide into the proper space. If cylinders are used to protect only one hazard, a normally closed stop valve shall be installed between the cylinders and the hazard except for systems of the type indicated in § 76.15-5(e) which contain not more than 300 pounds of carbon dioxide.

(c) Distribution piping to the various cargo spaces shall be controlled from not more than two stations. One of the stations controlling the system for the main machinery space shall be located as convenient as practicable to one of the main escapes from the space. All control stations and the individual valves and controls shall be marked as required by §§ 78.47-15 and 78.47-17 of this subchapter.

(d) Systems of the type indicated in § 76.15-5(e) shall be actuated by one control operating the valve to the space and a separate control releasing at least the required amount of carbon dioxide. These two controls shall be located in a box or other enclosure clearly identified for the particular space. Those systems installed without a stop valve shall be operated by one control releasing at least the required amount of carbon dioxide.

(e) Where provisions are made for the simultaneous release of a given amount of carbon dioxide by operation of a remote control, provisions shall also be made for manual control at the cylinders. Where gas pressure from pilot cylinders is used as a means for releasing the remaining cylinders, not less than two pilot cylinders shall be used for systems consisting of more than two cylinders. Each of the pilot cylinders shall be capable of manual control at the cylinder, but the remaining cylinders need not be capable of individual manual control.

(f) Systems of the type indicated in § 76.15-5(e), other than systems for tanks, which are of more than 300 pounds of carbon dioxide, shall be fitted with an approved delayed discharge so arranged that the alarm will be sounded for at least 20 seconds before the carbon dioxide is released into the space. Such systems of not more than 300 pounds of carbon dioxide shall also have a similar delayed discharge, except for those systems for tanks and for spaces which have a suitable horizontal escape. This paragraph shall be applicable only to systems installed on or after July 1, 1957.

(g) All distribution valves and controls shall be of an approved type. All controls shall be suitably protected.

(h) Complete but simple instructions for the operation of the systems must

be located in a conspicuous place at or near all pull boxes, stop valve controls and in the CO₂ cylinder storage room. On systems in which the CO₂ cylinders are not within the protected space, these instructions must also include a schematic diagram of the system and instructions detailing alternate methods of discharging the system should the manual release or stop valve controls fail to operate. Each control valve to branch lines must be marked to indicate the related space served.

(i) If the space or enclosure containing the carbon dioxide supply or controls is to be locked, a key to the space or enclosure shall be in a break-glass-type box conspicuously located adjacent to the opening.

[CG FR 65-60, 30 FR 16940, Dec. 30, 1965, as amended by CGD 74-100R, 40 FR 6209, Feb. 10, 1975]

§ 76.15-15 Piping.

(a) The piping, valves, and fittings shall have a bursting pressure of not less than 6,000 p.s.i.

(b) All piping, in nominal sizes not over ¾ inch, shall be at least Schedule 40 (standard weight), and in nominal sizes over ¾ inch, shall be at least Schedule 80 (extra heavy).

(c) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

(d) A pressure relief valve or equivalent set to relieve between 2,400 and 2,800 p.s.i. shall be installed in the distributing manifold or such other location as to protect the piping in the event that all branch line shut-off valves are closed.

(e) All dead end lines shall extend at least 2 inches beyond the last orifice and shall be closed with cap or plug.

(f) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury.

(g) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture. Drains and dirt traps shall be located in accessible locations where possible.

(h) Piping shall be used for no other purpose except that it may be incorporated with the fire detecting system.

(i) Piping passing through living quarters shall not be fitted with drains or other openings within such spaces.

(j) Installation test requirements:

(1) Upon completion of the piping installation, and before the cylinders are connected, a pressure test shall be applied as set forth in this paragraph. Only carbon dioxide or other inert gas shall be used for this test.

(2) The piping from the cylinders to the stop valves in the manifold shall be subjected to a pressure of 1,000 p.s.i. With no additional gas being introduced to the system, it shall be demonstrated that the leakage of the system is such as not to permit a pressure drop of more than 150 p.s.i. per minute for a 2-minute period.

(3) The individual branch lines to the various spaces protected shall be subjected to a test similar to that described in the preceding paragraph with the exception that the pressure used shall be 600 p.s.i. in lieu of 1,000 p.s.i. For the purpose of this test, the distribution piping shall be capped within the space protected at the first joint ahead of the nozzles.

(4) In lieu of the tests prescribed in the preceding paragraphs in this section, small independent systems protecting spaces such as emergency generator rooms, lamp lockers, etc., may be tested by blowing out the piping with air at a pressure of at least 100 p.s.i.

§ 76.15-20 Carbon dioxide storage.

(a) Except as provided in paragraph (b) of this section, the cylinders shall be located outside the spaces protected, and shall not be located in any space that might be cut off or made inaccessible in the event of a fire in any of the spaces protected.

(b) Systems of the type indicated in § 76.15-5(e), consisting of not more than 300 pounds of carbon dioxide, may have the cylinders located within the space protected. If the cylinder stowage is within the space protected, the system shall be arranged in an approved manner to be automatically operated by a heat actuator within the space in addition to the regular remote and local controls.

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(c) The space containing the cylinders shall be properly ventilated and designed to preclude an anticipated ambient temperature in excess of 130 degrees F.

(d) Cylinders shall be securely fastened and supported, and, where necessary, protected against injury.

(e) Cylinders shall be so mounted as to be readily accessible and capable of easy removal for recharging and inspection. Provisions shall be available for weighing the cylinders.

(f) Where subject to moisture, cylinders shall be so installed as to provide a space of at least 2 inches between the flooring and the bottom of the cylinders.

(g) Cylinders shall be mounted in an upright position or inclined not more than 30 degrees from the vertical. However, cylinders which are fitted with flexible or bent syphon tubes may be inclined not more than 80 degrees from the vertical.

(h) Where check valves are not fitted on each independent cylinder discharge, plugs or caps shall be provided for closing outlets when cylinders are removed for inspection or refilling.

(i) All cylinders used for storing carbon dioxide must be fabricated, tested, and marked in accordance with §§ 147.60 and 147.65 of this chapter.

[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGD 84-044, 53 FR 7748, Mar. 10, 1988]

§ 76.15-25 Discharge outlets.

(a) Discharge outlets shall be of an approved type.

§ 76.15-30 Alarms.

(a) Spaces which are protected by a carbon dioxide extinguishing system and are normally accessible to persons on board while the vessel is being navigated, other than paint and lamp lockers and similar small spaces, shall be fitted with an approved audible alarm in such spaces which will be automatically sounded when the carbon dioxide is admitted to the space. The alarm shall be conspicuously and centrally located and shall be marked as required by § 78.47-9 of this subchapter. For systems installed on or after July 1, 1957, alarms will be mandatory only

for systems required to be fitted with a delayed discharge. Such alarms shall be so arranged as to sound during a 20 second delay period prior to the charge of carbon dioxide into the space, and the alarm shall depend on no source of power other than carbon dioxide.

§ 76.15-35 Enclosure openings.

(a) Where mechanical ventilation is provided for spaces other than cargo and similar spaces which are protected by a carbon dioxide extinguishing system, provisions shall be made that the ventilation system is automatically shut down with the operation of the system to that space.

(b) Where natural ventilation is provided for spaces protected by a carbon dioxide extinguishing system, provisions shall be made for easily and effectively closing off the ventilation.

(c) Means shall be provided for closing all openings to the space protected from outside such space. In this respect, relatively tight doors, shutters or dampers shall be provided for openings in the lower portion of the space. The construction shall be such that openings in the upper portion of the space can be closed off either by permanently installed means or by use of canvas or other material which is normally carried by the vessel.

§ 76.15-40 Pressure relief.

(a) Where necessary, relatively small compartments such as refrigeration spaces, paint lockers, etc., shall be provided with suitable means for relieving excessive pressure accumulation within the compartment when carbon dioxide is injected.

[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15286, 1966]

§ 76.15-90 Installations contracted prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and the

maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.15-5 through 76.15-40 insofar as is reasonable and practicable, with the exception of § 76.15-5(e) (1) through (3) covering spaces other than cargo spaces, which systems may be installed in accordance with paragraphs (a) (3) through (6) of this section. However, the foregoing exception shall not be permitted for vessels on an international voyage.

(3) In boilerrooms, the bilges shall be protected by a system discharging principally below the floor plates. Perforated pipe may be used in lieu of discharge nozzles for such systems. The number of pounds of carbon dioxide shall be equal to the gross volume of the boiler room taken to the top of the boilers divided by 36. In the event of an elevated boilerroom which drains to the machinery space, the system shall be installed in the engine room bilge and the gross volume shall be taken to the flat on which the boilers are installed.

(4) In machinery spaces where main propulsion internal combustion machinery is installed, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space taken to the underside of the deck forming the hatch opening divided by 22.

(5) In miscellaneous spaces other than cargo or main machinery spaces, the number of pounds of carbon dioxide required shall be equal to the gross volume of the space divided by 22.

(6) Branch lines to the various spaces other than cargo and similar spaces, shall be as noted in Table 76.15-90(a) (6). This table is based on cylinders having discharge outlets and siphon tubes of 3/8-inch diameter.

TABLE 76.15-90(a)(6)

Number of cylinders		Nominal pipe size	
Over	Not over	Inches	Type
	2	1/2	Standard.
2	4	3/4	Do.

TABLE 76.15-90(a)(6)—Continued

Number of cylinders		Nominal pipe size	
Over	Not over	Inches	Type
4	8	1	Extra heavy.
8	12	1 1/4	Do.
12	16	1 1/4	Do.
16	27	2	Do.
27	39	2 1/2	Do.
39	60	3	Do.
60	80	3 1/2	Do.
80	104	4	Do.
104	165	5	Do.

[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGFR 67-87, 32 FR 19181, Dec. 20, 1967]

Subpart 76.17—Foam Extinguishing Systems, Details

§ 76.17-1 Application.

(a) Where a foam extinguishing system is installed, the provisions of this subpart, with the exception of § 76.17-90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.17-90.

§ 76.17-5 Quantity of foam required.

(a) *Area protected.* (1) For machinery and similar spaces, the system shall be so designed and arranged as to spread a blanket of foam over the entire tank top or bilge of the space protected. The arrangement of piping shall be such as to give a uniform distribution over the entire area protected.

(2) Where an installation is made to protect an oil fired boiler installation on a flat which is open to or can drain to the lower engine room or other space, both the flat and the lower space shall be protected simultaneously. The flat shall be fitted with suitable coamings on all openings other than deck drains to properly restrain the oil and foam at that level. Other installations of a similar nature will be considered in a like manner.

(3) Where a system is installed to protect a tank, it shall be so designed and arranged as to spread a blanket of foam over the entire liquid surface of

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the tank within the range of usual trim. The arrangement of piping shall be such as to give a uniform distribution over the entire area protected.

(b) *Rate of application.* (1) For spaces other than tanks, the rate of discharge to foam outlets protecting the hazard shall be at least as set forth in this subparagraph.

(i) For chemical foam systems with stored "A" and "B" solutions, a total of at least 1.6 gallons per minute of the two solutions shall be discharged for each 10 square feet of area protected.

(ii) For other types of foam systems, the water rate to the dry powder generators or air foam production equipment shall be at least 1.6 gallons per minute for each 10 square feet of area protected.

(2) For tanks, the rate of discharge to foam outlets protecting the hazard shall be as set forth in paragraph (b)(1) of this section except that the value of 1 gallon per minute shall be substituted in both cases for the value of 1.6 gallons per minute.

(c) *Supply of foam producing material.* (1) There shall be provided a quantity of foam producing material sufficient to operate the equipment at the discharge rate specified in paragraph (b) of this section for a period of at least 3 minutes for spaces other than tanks, and for at least 5 minutes for tanks.

(2) A separate supply of foam agent need not be provided for each space protected. The total available supply shall be at least sufficient for the space requiring the greatest amount.

(3) Where pumps are required, the water supply shall be from outside the space protected and shall in no way be dependent upon power from the space protected.

§ 76.17-10 Controls.

(a) The foam agent, its container, and all controls and valves for the operation of the system shall be of an approved type.

(b) The foam agent container and all controls and valves for the operation of the system shall be outside the space protected and shall not be located in such space as might be cut off or made inaccessible in the event of fire

in any of the spaces protected. The control space shall be as convenient as practicable to one of the main escapes from spaces protected, and shall be marked as required by § 78.47-17 of this subchapter. Where pumps are required, it shall not be necessary that they be started from the control space.

(c) Complete, but simple instructions for the operation of the system shall be located in a conspicuous place at or near the controls.

(d) The valves to the various spaces served shall be marked as required by § 78.47-15 of this chapter.

§ 76.17-15 Piping.

(a) All piping, valves, and fittings shall meet the applicable requirements of Subchapter F (Marine Engineering) of this chapter.

(b) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

(c) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury.

(d) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture.

(e) Piping shall be used for no other purpose.

§ 76.17-20 Discharge outlets.

(a) Discharge outlets shall be of an approved type.

§ 76.17-25 Additional protection required.

(a) In order that any residual fires above the floor plates may be extinguished when a foam system is installed for the protection of spaces other than tanks, at least 2 fire hydrants, in addition to those required for the machinery space by Subpart 76.10, shall be installed outside of the machinery space entrances. Such hydrants shall be fitted with sufficient hose so that any part of the machinery space may be reached with at least 2 streams of water, and each hose shall be equipped with an approved combination nozzle, applicator, and self-cleaning strainer as described in § 76.10-10(j)(3).

§ 76.17-90 Installations contracted for prior to November 19, 1952.

(a) Installation contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.17-5 through 76.17-20, with the exception of § 76.17-5(a)(2), insofar as is reasonable and practicable. A 6-inch blanket of foam in 5 minutes for tanks and 3 minutes for other spaces will be considered as meeting the requirements of § 76.17-5.

Subpart 76.23—Manual Sprinkling System, Details

§ 76.23-1 Application.

(a) Where a manual sprinkling system is installed, the provisions of this subpart, with the exception of § 76.23-90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.23-90.

§ 76.23-5 Zoning.

(a) Separate zones may be used for each deck, and on any particular deck, spaces separated by "A" or "B" Class bulkheads may be separately zoned.

(b) On any particular deck, large common areas may be zoned in accordance with Table 76.23-5(b). All such zones within one common area shall be of approximately the same size. Zones of this type shall overlap in such a manner that the end sprinkler heads of both adjoining zones will cover the identical area.

TABLE 76.23-5(b)

Square feet of common deck area		Maximum number of zones
Over	Not over	
	800	1
800	1,800	2
1,800	3,000	3
3,000	5,000	4
5,000	9,000	5
9,000	16,000	6
16,000	30,000	7
30,000		8

§ 76.23-10 Quantity, pipe sizes, and discharge rates.

(a) *General.* (1) The system shall be so designed and arranged that the overhead is effectively sprayed and all portions of the deck are covered. The capacity shall be such that at least 12 gallons of water per minute are applied to each 100 square feet of deck area.

(2) Piping, fittings, sprinkler heads, and pumps installed in accordance with the remainder of this section will be considered as meeting the above requirements. If alternate sizes or arrangements are used, it shall be demonstrated that these minimum requirements have been met.

(b) *Sprinkler heads.* (1) Three-eighth inch open type sprinkler heads shall be used. Sprinkler heads shall be so arranged that no portion of the overhead is more than 7 feet from a sprinkler head.

(c) *Pipe sizes.* (1) The various pipe sizes shall be in proportion to the number of heads served. Minimum pipe sizes shall be as given in Table 76.23-10(c).

TABLE 76.23-10(c)

Number of 3/8 inch heads served		Minimum nominal pipe sizes, inches
Over	Not over	
	1	¾
1	2	1
2	4	1¼
4	6	1½
6	12	2
12	18	2½
18	30	3
30	46	3½
46	66	4

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TABLE 76.23-10(c)—Continued

Number of 3/8 inch heads served		Minimum nominal pipe sizes, inches
Over	Not over	
56	120	5

(d) *Fire pumps.* (1) The fire pumps may be used for the sprinkling system provided there is sufficient total capacity to operate the largest zone of the sprinkling system with a Pitot tube pressure of at least 15 p.s.i. at all heads and at the same time to deliver water from the two highest fire hose outlets in a manner similar to that described in § 76.10-5(c). In addition, on vessels over 750 gross tons, there shall be sufficient pumping capacity to also operate the second largest zone.

§ 76.23-15 Controls.

(a) The controls for the system shall be outside the spaces protected, and shall not be located in such space as might be cut off or made inaccessible in the event of fire in any of the spaces protected. The control space shall be marked as required by § 78.47-15 of this subchapter. It shall not be necessary to start the pumps from the control space.

(b) Distribution piping to the various zones shall be controlled from one station. Each branch line to the various zones shall be fitted with a stop valve which shall be marked as required by § 78.47-15 of this subchapter.

§ 76.23-20 Piping.

(a) All piping, valves, and fittings shall meet the applicable requirements of Subchapter F (Marine Engineering) of this chapter.

(b) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved by the Commandant.

(c) All piping, valves, fittings, and sprinkler heads shall be securely supported, and where necessary, protected against injury.

(d) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture.

(e) Piping shall be used for no other purpose.

§ 76.23-25 Sprinkler heads.

(a) Sprinkler heads shall be of an approved type.

§ 76.23-90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and replacements may be made to the same standards as the original installation.

(2) The details of the system shall be in general agreement with §§ 76.23-5 through 76.23-25 insofar as is reasonable and practicable. Existing piping, pumping facilities, and sprinkler heads or perforated pipes may be retained provided all portions of the overhead are effectively sprayed and all portions of the deck are covered.

Subpart 76.25—Automatic Sprinkling System, Details

§ 76.25-1 Application.

(a) Where an automatic sprinkling system is installed, the provisions of this subpart, with the exception of § 76.25-90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.25-90.

§ 76.25-5 Zoning.

(a) The automatic sprinkling system shall be divided into separate zones to restrict the area covered by any particular alarm signal.

(b) No sprinkling zone shall contain more than 250 sprinkler heads.

(c) The sprinkling zone may cover more than one deck, in which case, the boundaries shall be maintained in a vertical line insofar as is reasonable

and practicable. The boundaries of the zone shall be coincident with bulkheads of Class "A" construction such as main vertical zone or watertight bulkheads.

(d) Spaces in different main vertical zones shall not be included in the same sprinkling zone.

§ 76.25-10 Size and arrangement of sprinkler heads and pipe sizes.

(a) *General.* (1) The system shall be so designed and arranged that the overhead is effectively sprayed and that all portions of the deck are covered.

(2) One-half inch sprinkler heads shall be used. Sprinkler heads shall be so arranged that no portion of the overhead or vertical projection of the deck is more than 7 feet from a sprinkler head.

(b) *Pipe sizes.* (1) The sizes of branch lines, single cross mains, feed mains, and risers shall be in proportion to the number of sprinkler heads served. The minimum pipe sizes shall be as given in Table 76.25-10(b)(1).

TABLE 76.25-10(b)(1)

Minimum nominal pipe size, inches	Maximum number of heads served	
	Vessels whose construction is more combustible than that set forth in §§ 72.05-5 through 72.05-60	Vessels constructed in general agreement with §§ 72.05-5 through 72.05-60
1	2	2
1¼	3	3
1½	5	5
2	10	10
2½	20	40
3	40	250
3½	65	
4	100	
5	160	
6	250	

(2) If a complete loop cross main is employed, the size of such cross main shall be in proportion to the number of sprinkler heads served. The minimum pipe sizes shall be as given in Table 76.25-10(b)(2). The entire loop shall be of the same size pipe.

TABLE 76.25-10(b)(2)

Minimum nominal pipe size, inches	Maximum number of heads served	
	Vessels whose construction is more combustible than that set forth in §§ 72.05-5 through 72.05-60	Vessels constructed in general agreement with §§ 72.05-5 through 72.05-60
1	5	5
1¼	9	9
1½	13	13
2	22	30
2½	40	80
3	80	250
3½	130	
4	250	

§ 76.25-15 Pumps and water supply.

(a) An automatically controlled pump shall be provided to supply the sprinkling system and shall be used for no other purpose. The size and capacity of the pump shall be governed by the zone having the greatest capacity need for any one deck, and shall be suitable to operate at least the number of heads noted in Table 76.25-15(a) with a Pitot tube pressure of at least 15 p.s.i. at all heads (approximately 20 GPM per head). There shall also be sufficient pumping capacity available, either from the automatic pump, the fire pumps, or other source, so that in conjunction with the automatic pump the total number of heads noted in Table 76.25-15(a) may be operated with the same efficiency as noted above, and at the same time to deliver water from the two highest fire hose outlets in a manner similar to that described in § 76.10-5(c). Intermediate values may be obtained by interpolation.

TABLE 76.25-15(a)

Maximum number of heads on one deck in one zone	Number of heads automatic pump to supply	Number of heads additional pumps to supply
5	5	
10	10	
20	10	10
30	12	18
40	15	18
50	15	25

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TABLE 76.25-15(a)—Continued

Maximum number of heads on one deck in one zone	Number of heads automatic pump to supply	Number of heads additional pumps to supply
60	20	25
80	20	30
100	20	40
120	20	50
150	20	60
200	20	75
250	20	100

§ 76.25-20 Pressure tank.

(a) A pressure tank or other suitable means shall be installed to permit early action of the system pending the starting of the pump. Sufficient fresh water shall be carried in the tank to fill the piping of the largest zone, and in addition, force out at least 200 gallons at the least effective head in the zone at a Pitot tube pressure of at least 15 p.s.i. Suitable check valves shall be installed to prevent salt water from entering the pressure tank, and low water and low pressure alarms shall be fitted.

§ 76.25-25 Controls.

(a) The controls for the system shall be outside the spaces protected, and shall not be located in such space as might be cut off or made inaccessible in the event of fire in any of the spaces protected. The control space shall be marked as required by § 78.47-17 of this subchapter.

(b) Each supply line to the various zones shall be fitted with a stop valve which shall be marked as required by § 78.47-15 of this subchapter. These valves shall be normally open, and shall indicate by an alarm if they are closed.

§ 76.25-30 Piping.

(a) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved by the Commandant.

(b) All piping, valves, fittings, and sprinkler heads shall be securely supported, and, where necessary, protected against injury.

(c) Drains and dirt traps shall be fitted where necessary to prevent the accumulation of dirt or moisture.

(d) Piping shall be used for no other purpose.

§ 76.25-35 Operation and installation.

(a) The system shall be so arranged and installed that a fire in any of the protected spaces will open the affected sprinkler heads. Water from the pressure tank shall be immediately available to the affected sprinkler head and before the supply from the pressure tank is exhausted, the sprinkler pump shall be automatically started and shall supply the system until manually shut off. Suitable test stations shall be installed in each zone to test the operation of the system.

(b) The system shall be so arranged and installed that the presence of a fire in any of the protected spaces will automatically be registered visibly and audibly in the pilothouse or fire control station. The visible notice shall automatically indicate the zone in which the alarm originated. On vessels over 150 feet in length, there shall also be an audible alarm in the engine room.

(c) There shall be not less than two sources of power supply for the sea water pumps, air compressors and automatic alarms. Where the sources of power are electrical, these shall be a main generator and an emergency source of power. One supply shall be taken from the main switchboard, by separate feeders reserved solely for that purpose. Such feeders shall be run to a change-over switch situated near to the sprinkler unit and the switch shall normally be kept closed to the feeder from the emergency switchboard. The change-over switch shall be clearly labeled and no other switch shall be permitted in these feeders.

(d) Where subject to freezing, sprinkler systems shall be of the dry pipe type.

(e) The sprinkler heads, the cabinet, alarms, dry valves and actuating mechanisms shall be of an approved type.

(f) In general, the sprinkler heads shall be rated not lower than 135 degrees F. nor higher than 165 degrees F. However, in spaces where a high

ambient temperature may be expected, sprinkler heads rated at 212 degrees F. shall be used.

(g) The automatic sprinkling system and all its components shall be used for no other purpose.

(h) All wiring and electrical circuits and equipment shall meet the applicable requirements of Subchapter J (Electrical Engineering) of this chapter.

(i) All piping, valves, fittings, pressure tanks, etc., must meet the applicable requirements of Subchapter F (Marine Engineering) of this chapter.

(j) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This chart, or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(k) The audible alarms shall be identified as required by § 78.47-13 of this subchapter.

[CGFR 65-50, 30 FR 16940, Dec. 30, 1965, as amended by CGD 74-125A, 47 FR 15231, Apr. 8, 1982]

§ 76.25-90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and facilities previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph, and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and replacements may be made to the same standards as the original installation.

(2) The details of the system shall be in general agreement with §§ 76.25-5 through 76.25-35 insofar as is reasonable and practicable. Existing piping, pumping facilities, sprinkler heads, and operating devices may be retained provided a reasonable coverage of the spaces protected is assured.

Subpart 76.27—Electric Fire Detecting System, Details

§ 76.27-1 Application.

(a) Where an electric fire detecting system is installed, the provisions of this subpart, with the exception of § 76.27-90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.27-90.

§ 76.27-5 Zoning.

(a) The fire detecting system shall be divided into separate zones to restrict the area covered by any particular alarm signal.

(b) All spaces in a fire detecting zone shall be accessible from one to another without leaving the deck involved. All doors in watertight subdivision bulkheads and main vertical zone bulkheads shall be assumed closed for the purpose of this requirement.

(c) The fire detecting zone shall not include spaces on more than one deck, except:

(1) Adjacent and communicating spaces on different decks in the ends of the vessel having a combined ceiling area of not more than 3,000 square feet.

(2) Isolated rooms or lockers in such spaces as mast houses, wheelhouse top, etc., which are easily communicable with the area of the fire-detecting circuit to which they are connected.

(3) Systems with indicators for individual spaces.

(d) The fire detecting zone shall not contain more than 50 protected rooms or spaces.

§ 76.27-10 Location and spacing of detectors.

(a) The detectors shall be located close to the overhead in the space protected. Where liable to physical damage, the detector shall be suitably protected.

(b) Unless specifically approved otherwise, no spot on the overhead of a protected space shall be more than 10 feet from a detector. Where beams or girders extend below the ceiling, or where the ceiling is installed at more

§ 76.27-15

than one level, the detectors shall be so located as to be most effective.

§ 76.27-15 Operation and installation.

(a) The system shall be so arranged and installed that the presence of a fire in any of the protected spaces will be automatically registered visibly and audibly in the pilothouse or fire control station. The visible notice shall indicate the zone in which the alarm originated. On vessels over 150 feet in length, there shall also be an audible alarm in the engine room.

(b) The detectors, the detecting cabinet and alarms shall be of an approved type.

(c) In general, the detectors, shall be rated not lower than 135 degrees F. and not higher than 165 degrees F. However, in spaces where a high ambient temperature may be expected, detectors shall be rated not lower than 175 degrees F. and not higher than 225 degrees F.

(d) The fire detecting system shall be used for no other purpose, except that it may be incorporated with the manual alarm system.

(e) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(f) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This chart, or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(g) The audible alarms shall be identified as required by § 78.47-13 of this subchapter.

§ 76.27-90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and equipment previously approved shall be considered satisfactory

so long as they meet the minimum requirements of this paragraph, and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.27-5 through 76.27-15 insofar as is reasonable and practicable.

Subpart 76.30—Pneumatic Fire Detecting System, Details

§ 76.30-1 Application.

(a) Where a pneumatic fire detecting system is installed, the provisions of this subpart, with the exception of § 76.30-90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.30-90.

§ 76.30-5 Zoning.

(a) The fire detecting system shall be divided into separate zones to restrict the area covered by any particular alarm signal.

(b) All spaces in a fire detecting zone shall be accessible from one to another without leaving the deck involved. All doors in watertight subdivision bulkheads and main vertical zone bulkheads shall be assumed closed for the purpose of this requirement.

(c) The fire detecting zone shall not include spaces on more than one deck, except:

(1) Adjacent and communicating spaces on different decks in the ends of the vessel, having a combined deck area of not more than 3,000 feet.

(2) Isolated rooms or lockers in such spaces as mast houses, wheelhouse top, etc., which are easily communicable with the area of the fire-detecting circuit to which they are connected.

(d) The fire detecting zone shall not include more than 50 protected rooms or spaces.

(e) Individual tubing circuits shall not contain more than 1,000 feet of pneumatic tubing or its equivalent. However, more than one tubing circuit

may be included in the same fire detecting zone.

§ 76.30-10 Location and spacing of tubing.

(a) The tubing shall be located on the overhead or within 12 inches of the overhead on the bulkheads. Where liable to physical damage, the tubing shall be suitably protected.

(b) In each enclosed space or separate room there shall be exposed at least 5 percent of the total length of tubing in that circuit, but in no case shall the amount be less than 25 feet.

(c) No spot on the overhead of a protected space shall be more than 12 feet from the nearest point of tubing. Where beams or girders extend below the ceiling, or where the ceiling is installed at more than one level, the tubing shall be so located as to be most effective.

§ 76.30-15 Operation and installation.

(a) The system shall be so arranged and installed that the presence of a fire in any of the protected spaces will automatically be registered visibly and audibly in the pilothouse or fire control station. The visible notice shall automatically indicate the zone in which the alarm originated. On vessels over 150 feet in length, there shall also be an audible alarm in the engine room.

(b) The tubing or detecting devices, pneumatic-electric converting units, detecting cabinets, and alarms shall be of an approved type.

(c) In general, the system shall be adjusted to operate at a temperature rise of approximately 40 degrees F. per minute at the center of the circuit.

(d) The fire detecting system shall be used for no other purpose except that it may be incorporated with the manual alarm system.

(e) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(f) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This

chart, or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(g) The audible alarms shall be identified as required by § 78.47-13 of this subchapter.

§ 76.30-90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and equipment previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.30-5 through 76.30-15 insofar as is reasonable and practicable.

Subpart 76.33—Smoke Detecting System, Details

§ 76.33-1 Application.

(a) Where a smoke detecting system is installed, the provisions of this subpart, with the exception of § 76.33-90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.33-90.

§ 76.33-5 Zoning.

(a) The smoke detecting system shall be divided into separate zones to restrict the area covered by any particular alarm signal.

(b) The smoke detecting zone shall not include spaces on more than one deck, except the small adjacent spaces mentioned in paragraph (c) of this section.

(c) Each separate space shall be considered as a zone, except that two or three small adjacent spaces having a combined volume not exceeding 5,000

§ 76.33-10

cubic feet may be connected on the same zone.

(d) Where a space is of such size that one accumulator is not sufficient, not more than two accumulators may be combined in one zone.

§ 76.33-10 Location and spacing of accumulators.

(a) Smoke accumulators shall be located overhead in each compartment. Where liable to physical damage, the accumulators and piping shall be suitably protected.

(b) No spot on the overhead of a protected space shall be more than 40 feet from an accumulator.

(c) Accumulators shall not be located closer to the opening of a ventilator than three times the diameter or equivalent diameter of the opening.

§ 76.33-15 Piping.

(a) Individual pipes shall be not less than ¾-inch standard pipe size.

(b) All piping, valves, and fittings of ferrous materials shall be protected inside and outside against corrosion unless specifically approved otherwise by the Commandant.

(c) Where a smoke detecting system serves a space used alternately for liquid and dry cargo, a valve shall be installed between the tank and the detecting cabinet so that the line may be shut off when liquids are carried. When the smoke detecting system is combined with a fire extinguishing system, the operation of the valve shall not affect the operation of the fire extinguishing system.

(d) All piping, valves, and fittings shall be securely supported, and where necessary, protected against injury. The piping shall be installed with as easy bends as practicable, and shall be installed to grade to low points for drainage.

(e) Drains and dirt tapes shall be fitted where necessary to prevent the accumulation of dirt or moisture.

§ 76.33-20 Operation and installation.

(a) The system shall be so arranged and installed that the presence of smoke in any of the protected spaces will automatically be indicated visually to an observer directly in front of the detecting cabinet. The visible

notice shall automatically indicate the zone in which the smoke originated. The detecting cabinet shall normally be located in the pilothouse or fire control station. On vessels over 5,000 gross tons, there shall also be an automatic audible alarm in the wheelhouse together with an auxiliary audible alarm in the engine room.

(b) If the detecting cabinet is not located in the pilothouse or fire control station, it shall be located in convenient proximity to the valve control station of the extinguishing system. In this case, there shall be in the pilothouse or fire control station automatic visual alarms, one for each zone in which an alarm may originate, as well as an automatic audible alarm. There shall also be an auxiliary audible alarm in the engine room. For installations contracted for on or after January 1, 1962, where detecting cabinets are not located in the pilothouse or an adjacent fire control station having direct access to the pilothouse, an efficient means of direct communication shall be provided between the pilothouse and the stations where the detecting cabinets are located.

(c) A sufficient quantity of exhaust from the detecting cabinet shall be discharged in the vicinity of the cabinet to permit the detection of fire by odor. A valve shall be installed in such space to direct the exhaust, if obnoxious, to the outside.

(d) The smoke detecting system shall be used for no other purpose except that it may be incorporated with the fire extinguishing system to the spaces covered by the smoke detecting system.

(e) The accumulators, detecting cabinet, interconnecting valves with the fire extinguishing system, alarms, and indicating devices shall be of an approved type.

(f) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(g) A framed chart or diagram shall be installed adjacent to the detecting cabinet and auxiliary panel indicating the location of the various zones and giving instructions for the operation, maintenance, and testing of the

system. The chart at the cabinet location or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(h) The audible smoke detecting alarms shall be identified as required by § 78.47-13 of this subchapter.

§ 76.33-90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, material, and equipment previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.33-5 through 76.33-15 insofar as is reasonable and practicable.

Subpart 76.35—Manual Alarm System, Details

§ 76.35-1 Application.

(a) Where a manual alarm system is installed, the provisions of this subpart, with the exception of § 76.35-90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of § 76.35-90.

§ 76.35-5 Zoning.

(a) The zoning of the manual alarm system shall meet the same requirements as for the electric fire detecting system, § 76.27-5.

§ 76.35-10 Location and spacing of manual alarm boxes.

(a) There shall be at least one manual alarm box in each zone.

(b) Manual alarms shall be located in main passageways, stairway enclosures, public spaces, or similar loca-

tions where they will be readily available and easily seen in case of need.

(c) In general, a sufficient number of manual alarm boxes shall be employed that a person escaping from any space would find a manual alarm box convenient on his normal route of escape.

§ 76.35-15 Operation and installation.

(a) The system shall be so arranged and installed that the presence of a fire may be reported from any of the protected spaces and be automatically registered visibly and audibly in the pilothouse or fire control station. The visible notice shall indicate the zone in which the alarm originated. There shall also be an audible alarm in the engine room.

(b) The manual alarm boxes, cabinet, and alarms shall be of an approved type.

(c) The manual alarm system shall be used for no other purpose, except that it may be incorporated with the fire detecting system.

(d) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.

(e) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This chart, or a separate booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.

(f) The manual alarm boxes and bells shall be identified as required by § 78.47-10 of this subchapter.

§ 76.35-90 Installations contracted for prior to November 19, 1952.

(a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Existing arrangements, materials, and equipment previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph, and

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they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.

(2) The details of the systems shall be in general agreement with §§ 76.35-5 through 76.35-15 insofar as is reasonable and practicable.

Subpart 76.50—Hand Portable Fire Extinguishers and Semiportable Fire Extinguishing Systems, Arrangements and Details

§ 76.50-1 Application.

(a) The provisions of this subpart, with the exception of § 76.50-90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 76.50-90.

§ 76.50-5 Classification.

(a) Hand portable fire extinguishers and semiportable fire extinguishing systems shall be classified by a combination letter and number symbol, the letter indicating the type of fire which the unit could be expected to extinguish, and the number indicating the relative size of the unit.

(b) The types of fire will be designated as follows:

(1) "A" for fires in ordinary combustible materials where the quenching and cooling effects of quantities of water, or solutions containing large percentages of water, are of first importance.

(2) "B" for fires in flammable liquids, greases, etc., where a blanketing effect is essential.

(3) "C" for fires in electrical equipment where the use of nonconducting extinguishing agent is of first importance.

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(c) The number designations for size will start with "I" for the smallest to "V" for the largest. Sizes I and II are considered hand portable fire extinguishers and sizes III, IV and V are considered semiportable fire extinguishing systems which shall be fitted with suitable hose and nozzle or other practicable means so that all portions of the space concerned may be covered. Examples of size graduations for some of the typical hand portable and semiportable fire extinguishing systems are set forth in Table 76.50-5(c).

TABLE 76.50-5(c)

Classification		Soda acid and water, gallons	Foam, gallons	Carbon dioxide, pounds	Dry chemical, pounds
Type	Size				
A	II	2½	2½	4	
B	I		1½	15	10
B	II		2½	35	20
B	III		12	50	30
B	IV		20	100	50
B	V		40		
C	I			4	2
C	II			15	10

(d) All hand portable fire extinguishers and semiportable fire extinguishing systems shall have permanently attached thereto a metallic name plate giving the name of the item, the rated capacity in gallons, quarts, or pounds, the name and address of the person or firm for whom approved, and the identifying mark of the actual manufacturer.

(e) Vaporizing-liquid type fire extinguishers, containing carbon tetrachloride or chlorobromomethane or other toxic vaporizing liquids shall be removed from all vessels.

§ 76.50-10 Location.

(a) Approved hand portable fire extinguishers and semiportable fire extinguishing systems shall be installed in accordance with Table 76.50-10(a).

TABLE 76.50-10(a)

Space	Hand portable fire extinguisher and semiportable fire extinguishing systems	
	Classification (see § 76.50-5)	Quantity and location
Safety areas¹		
Wheelhouse or fire control room	A-II, B-II, C-II	1 of each classification on vessels over 1,000 gross tons. (Not required in both spaces.) (Multiple classification may be recognized.)
Stairway and elevator enclosures		None required.
Communicating corridors	A-II	1 in each main corridor in each main vertical zone. (May be located in stairway enclosures.)
Lifboat embarkation and lowering stations		None required.
Radio room	C-I ²	2 in vicinity of exit. ³
Accommodations¹		
Staterooms, toilet spaces, isolated pantries, etc.		None required.
Offices, lockers, and isolated storerooms		Do.
Public spaces	A-II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits, except that none required for spaces under 500 square feet.
Open decks or enclosed promenades		None required.
Service spaces		
Galley	B-II or C-II	1 for each 2,500 square feet or fraction thereof suitable for hazards involved.
Main pantries	A-II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits.
Motion picture booths and film lockers	C-I ²	1 outside in vicinity of exit.
Paint and lamp rooms	B-II	1 outside space in vicinity of exit.
Inaccessible baggage, mail, and specie rooms, and storerooms		None required.
Accessible baggage, mail, and specie rooms, and storerooms	A-II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits, either inside or outside the spaces.
Refrigerated storerooms	A-II	1 for each 2,500 square feet or fraction thereof located in vicinity of exits, outside the spaces.
Carpenter, valet, photographic, printing shops, sales rooms, etc.	A-II	1 outside the space in vicinity of exit.
Machinery spaces		
Coal Fired Boilers: Bunker and boilerspace		None required.
Oil Fired Boilers: Spaces, containing oil fired boilers, either main or auxiliary, or their fuel oil units	B-II, B-V	2 required. ⁴ 1 required. ⁴
Internal combustion or gas turbine propelling machinery spaces	B-II	1 for each 1,000 B. H. P., but not less than 2 or more than 6.
	B-III	1 required. ⁴
Electric propulsive motors or generators of open type	C-II	1 for each propulsion motor or generator unit.
Enclosed ventilating systems for motors and generators of electric propelling machinery		None required.
Auxiliary spaces, internal combustion or gas turbine	B-II	1 outside the space in vicinity of exit. ⁴
Auxiliary spaces, electric emergency motors or generators	C-II	Do.
Auxiliary spaces, steam		None required.
Trunks to machinery spaces		Do.
Fuel tanks		Do.
Cargo spaces		
Inaccessible during voyage, including trunks (excluding tanks)		Do.
Accessible during voyage	A-II	1 for each 1,200 square feet or fraction thereof.
Vehicular spaces (covered by sprinkler system)	B-II	1, plus 1 for each 6,000 square feet or fraction thereof.
Vehicular spaces (not covered by sprinkler system)	B-II	1, plus 1 for each 1,500 square feet or fraction thereof. ¹
Cargo oil tanks		None required.

¹ In any case, on vessels of 150 feet in length, and over, there shall be at least 2 A-II units on each passenger deck.

² For vessels on an international voyage, substitute 1 C-II in vicinity of exit.

³ Vessels of less than 1,000 gross tons and not on an international voyage, require 1.

⁴ Vessels of less than 1,000 gross tons and not on an international voyage may substitute 1 B-IV.

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* If oil burning donkey boiler fitted in space, the B-V previously required for the protection of the boiler may be substituted. Not required on vessels of less than 300 gross tons if fuel has flashpoint of 110°F. or lower except on international voyage.

* Not required on vessels of less than 300 gross tons if fuel has flashpoint higher than 110°F.

* B-I units may be substituted for 1 B-II unit.

The location of the equipment shall be to the satisfaction of the Officer in Charge, Marine Inspection. Nothing in this paragraph shall be construed as limiting the Officer in Charge, Marine Inspection, from requiring such additional equipment as he deems necessary for the proper protection of the vessel.

(b) Semiportable fire extinguishing systems shall be located in the open so as to be readily seen.

(c) If hand portable fire extinguishers are not located in the open or behind glass so that they may be readily seen, they may be placed in enclosures together with the fire hose, provided such enclosures are marked as required by § 78.47-20 of this subchapter.

(d) Hand portable fire extinguishers and their stations shall be numbered in accordance with § 78.47-30 of this subchapter.

(e) Hand portable or semiportable extinguishers, which are required on their nameplates to be protected from freezing, shall not be located where freezing temperatures may be expected.

[CGFR 65-50, 30 FR 10940, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15283, Dec. 6, 1966]

§ 76.50-15 Spare charges.

(a) Spare charges shall be carried on all vessels for at least 50 percent of each size and each variety, i.e., foam, soda-acid, carbon dioxide, etc., of hand portable fire extinguisher required by § 76.50-10(a). However, if the unit is of such variety that it cannot be readily recharged by the vessel's personnel, one spare unit of the same classification shall be carried in lieu of spare charges for all such units of the same size and variety.

(b) Spare charges shall be so packaged as to minimize the hazards to personnel while recharging the units. Acid shall be contained in a Crown stopper type of bottle.

§ 76.50-20 Semiportable fire ext

(a) The frame or support of size III, IV, and V fire extinguishers required by Table 76.50-10(a) shall be welded or otherwise permanently attached to a bulkhead or deck.

(b) If an approved size III fire extinguisher has wheels, it shall be securely stowed when not in use to prevent it from rolling out under heavy sea conditions.

[CGD 77-039, 44 FR 34132, June 19, 1979]

§ 76.50-90 Vessels contracted for November 19, 1952.

(a) Vessels contracted for November 19, 1952, shall meet the following requirements:

(1) The provisions of Table 76.50-15 shall be met with the exception that existing installations in safety areas, accommodation spaces, and cargo spaces maintained if in the opinion of the Officer in Charge, Marine Inspection, in general agreement with the standard of safety prescribed by Table 76.50-10(a). In such cases, modifications may be made to meet the standards as the original installation provided that in no case will the departure from the standard of Table 76.50-10(a) be permitted if the original installation already exists.

Subpart 76.60—Fire

§ 76.60-1 Application.

(a) The provisions of this subpart shall apply to all vessels.

§ 76.60-5 Number required.

(a) All vessels except those carrying at least the minimum number of fire axes as set forth in Table 76.60-1 shall carry at least the minimum number of fire axes as set forth in Table 76.60-1. Nothing in this paragraph shall be construed as limiting the Officer in Charge, Marine Inspection, from requiring such additional fire axes as he deems necessary for the protection of the vessel.

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TABLE 76.60-5(a)

Gross tons		Number of axes
Over	Not over	
	50	1
50	200	2
200	500	4
500	1,000	6
1,000		8

(b) Covered barges shall carry at least three fire axes and uncovered barges shall carry at least two fire axes.

§ 76.60-10 Location.

(a) Fire axes shall be distributed throughout the spaces available to passengers and crew so as to be most readily available in the event of emergency.

(b) If fire axes are not located in the open or behind glass so that they may be readily seen, they may be placed in enclosures together with the fire hose, provided such enclosures are marked as required by § 78.47-20 of this subchapter.

PART 77—VESSEL CONTROL AND MISCELLANEOUS SYSTEMS AND EQUIPMENT

Subpart 77.01—Application

Sec.

77.01-1 General.

77.01-3 Incorporation by reference.

Subpart 77.03—Marine Engineering Systems

77.03-1 Installation and details.

Subpart 77.05—Electrical Engineering and Interior Communication Systems

77.05-1 Installation and details.

Subpart 77.07—Anchors, Chains, and Hawsers

77.07-1 Application.

77.07-5 Ocean, coastwise, or Great Lakes service.

77.07-10 Lakes, bays, and sounds, or river service.

77.07-90 Vessels contracted for prior to November 19, 1952.

Sec.

Subpart 77.09—Radar

77.09-1 When required.

Subpart 77.11—Magnetic Compass and Gyrocompass

77.11-1 When required.

Subpart 77.27—Sounding Equipment

77.27-1 When required.

Subpart 77.30—Emergency Equipment

77.30-1 Application.

77.30-5 General.

77.30-10 Stowage.

77.30-15 Spare charges.

77.30-90 Vessels contracted for prior to November 19, 1952.

Subpart 77.35—Fireman's Outfit

77.35-1 Application.

77.35-5 General.

77.35-10 Fireman's outfit.

77.35-15 Stowage.

77.35-20 Spare charges.

77.35-90 Vessels contracted for prior to May 26, 1965.

Subpart 77.40—Pilot Boarding Equipment

77.40-1 Pilot boarding equipment.

AUTHORITY: 46 U.S.C. 3306; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16953, Dec. 30, 1965, unless otherwise noted.

Subpart 77.01—Application

§ 77.01-1 General.

(a) The provisions of this part shall apply to all vessels except as specifically noted.

§ 77.01-3 Incorporation by reference.

(a) Certain materials are incorporated by reference into this part with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a). To enforce any edition other than the one listed in paragraph (b) of this section, notice of the change must be published in the **FEDERAL REGISTER** and the material made available to the public. All approved material is on file at the Office of the Federal Register, Washington, DC 20408, and at the U.S. Coast Guard, Marine Technical

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and Hazardous Materials Division, 2100 Second Street SW., Washington, DC 20593-0001, and is available from the address indicated in paragraph (b).

(b) The material approved for incorporation by reference in this part, and the sections affected is:

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, PA 19103.

ASTM F1014-1986 Standard Specification for Flashlights on Vessels.

Sections affected—77.35-5(c).

[CGD 82-042, 53 FR 17704, May 18, 1988]

Subpart 77.03—Marine Engineering Systems

§ 77.03-1 Installation and details.

(a) The installation of all systems of a marine engineering nature, together with the details of design, construction, and installation, shall be in accordance with the requirements of Subchapter F (Marine Engineering) of this chapter. Systems of this type include the following:

Steering systems.
Power for going astern.
Bilge and ballast systems.
Tank vent and sounding systems.
Overboard discharges and shell connections.
Pipe and pressure systems.

Subpart 77.05—Electrical Engineering and Interior Communication Systems

§ 77.05-1 Installation and details.

(a) The installation of all systems of an electrical engineering or interior communications nature, together with the details of design, construction, and installation, shall be in accordance with the requirements of subchapter J (Electrical Engineering) of this chapter. Systems of this type include the following:

Ship's service generating systems.
Ship's service power distribution systems.
Ship's lighting systems.
Electric propulsion and propulsion control systems.
Emergency lighting and power systems.
Electric lifeboat winch systems.
Electric steering gear and steering control systems.
Fire detecting and alarm systems

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Sound powered telephone and voice tube systems.

Engine order telegraph systems.

Rudder angle indicator systems.

Refrigerated spaces alarm systems.

Navigation lights systems.

Daylight signaling lights.

Miscellaneous machinery alarms and controls.

General alarm systems.

(b) Electrical equipment installed in spaces "specially suitable for vehicles" shall be in accordance with subchapter J (Electrical Engineering) of this chapter.

[CGFR 65-50, 30 FR 16953, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15283, Dec. 6, 1966; CGFR 68-32, 33 FR 5716, Apr. 12, 1968; CGD 74-125A, 47 FR 15231, Apr. 8, 1982]

Subpart 77.07—Anchors, Chains, and Hawsers

§ 77.07-1 Application.

(a) The provisions of this subpart, with the exception of § 77.07-90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 77.07-90.

§ 77.07-5 Ocean, coastwise, or Great Lakes service.

(a) Vessels in ocean, coastwise, or Great Lakes service shall be fitted with anchors, chains, and hawsers in general agreement with the standards established by the American Bureau of Shipping, see subpart 70.35 of this subchapter.

(b) In addition to the provisions of paragraph (a) of this section, the following requirements and alternatives also apply:

(1) The American Bureau of Shipping rules relating to anchor equipment are mandatory, not a guide.

(2) Vessels under 200 feet (61 meters) in length and with an American Bureau of Shipping equipment number of less than 150 may be equipped with either—

(i) One anchor of the tabular weight and one-half the tabulated length of anchor chain listed in the applicable standard, or

(ii) Two anchors of one-half the tabular weight with the total length of anchor chain listed in the applicable standard provided both anchors are in a position that allows for ready use at all times and the windlass is capable of heaving in either anchor.

(c) Standards of other recognized classification societies may be used, in lieu of those established by the American Bureau of Shipping, upon approval by the Commandant.

[CGFR 65-50, 30 FR 18953, Dec. 30, 1965, as amended at CGD 87-013, 53 FR 20624, June 6, 1988]

§ 77.07-10 Lakes, bays, and sounds, or river service.

(a) Vessels in lakes, bays, and sounds, or river service shall be fitted with such ground tackle and hawsers as deemed necessary by the Officer in Charge, Marine Inspection, depending upon the size of the vessel and the waters on which it operates.

§ 77.07-90 Vessels contracted for prior to November 19, 1952.

(a) Vessels contracted for prior to November 19, 1952, shall meet the following requirements:

(1) Installations previously accepted or approved shall be considered satisfactory for the same service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. If the service of the vessel is changed, the suitability of the equipment will be established by the Officer in Charge, Marine Inspection.

Subpart 77.09—Radar

§ 77.09-1 When required.

All mechanically propelled vessels of 1,600 gross tons and over in ocean or coastwise service must be fitted with a marine radar system for surface navigation. Facilities for plotting radar readings must be provided on the bridge.

[CGD 75-074, 42 FR 5963, Jan. 31, 1977]

Subpart 77.11—Magnetic Compass and Gyrocompass

§ 77.11-1 When required.

(a) All mechanically propelled vessels in ocean, coastwise or Great Lakes service must be fitted with a magnetic compass.

(b) All mechanically propelled vessels 1,600 gross tons and over in ocean or coastwise service must be fitted with a gyrocompass in addition to the magnetic compass.

(c) Each vessel must have an illuminated repeater for the gyrocompass required under paragraph (b) of this section, that is at the main steering stand unless the gyrocompass is illuminated and is at the main steering stand.

[CGD 75-074, 42 FR 5963, Jan. 31 1977]

Subpart 77.27—Sounding Equipment

§ 77.27-1 When required.

(a) All mechanically propelled vessels of 500 gross tons and over in ocean or coastwise service, and all mechanically propelled vessels of 500 gross tons and over in Great Lakes service certificated for service on the River St. Lawrence eastward of the lower exit of the St. Lambert Lock at Montreal, Canada, shall be fitted with an efficient electronic deep-sea sounding apparatus and a deep-sea hand lead. All other mechanically propelled vessels of 1,500 gross tons and over in Great Lakes service shall carry a deep-sea hand lead.

[CGFR 66-33, 31 FR 15283, Dec. 6, 1966, as amended by CGD 75-074, 42 FR 5963, Jan. 31, 1977]

Subpart 77.30—Emergency Equipment

§ 77.30-1 Application.

(a) The provisions of this subpart, with the exception of § 77.30-90, shall apply to all vessels not on an international voyage contracted for on or after November 19, 1952. Such vessels contracted for prior to November 19, 1952, shall meet the requirements of § 77.30-90.

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§ 77.30-5 General.

(a) All self-contained breathing apparatus and gas masks shall be of an approved type, constructed in accordance with subpart 160.011 of subchapter Q (Specifications) of this chapter.

(b) All gas masks, except the special refrigeration gas masks, shall be of the type approved by the Bureau of Mines as "Type N, Universal Gas Mask".

(c) All flame safety lamps shall be of an approved type, constructed in accordance with subpart 160.016 of subchapter Q (Specifications) of this chapter.

(d) All emergency equipment shall be maintained in an operative condition, and it shall be the responsibility of the master and chief engineer to ascertain that a sufficient number of the crew are familiar with the operation of the equipment.

§ 77.30-10 Stowage.

(a) The equipment set forth in Table 77.30-10(a), together with such other items as the master may deem necessary, shall be stowed in convenient, accessible locations for use in case of emergency.

TABLE 77.30-10(a)

Service	Number of passenger staterooms	Self-contained breathing apparatus	Additional gas masks or self-contained breathing apparatus	Special refrigeration gas masks ¹	Flame safety lamps
Ocean and coastwise, not on an international voyage	0 to 49			1	
	50 to 100	1	3	1	
	Over 100	1	5	1	1
Great Lakes, and lakes, bays, and sounds	0 to 49			1	
	50 to 100	1	1	1	
	Over 100	1	3	1	1
Rivers	0 to 49			1	
	50 to 100	1		1	
	Over 100	1	1	1	1

¹ Required only on vessels equipped with refrigeration, small unit type refrigerators of not more than 20 cubic feet capacity excluded. A gas mask suitable for protection against each refrigerant used shall be provided.

(b) The refrigeration gas masks shall be stowed convenient to, but outside of the spaces containing the refrigeration equipment.

(c) Half of the remaining equipment set forth in Table 77.30-10(a) shall be stowed in or near the pilothouse together with a fire axe and the hand portable fire extinguishers required by Table 76.50-10(a) for that location. The other half of the equipment shall be stowed in a convenient accessible location, remote from the pilothouse, and preferably adjacent to the main entrance to the machinery space. Where only one of an item is required, it shall be stowed in the pilothouse.

§ 77.30-15 Spare charges.

(a) A complete recharge shall be carried for each gas mask and self-con-

tained breathing apparatus. The spare charge shall be stowed in the same location as the equipment it is to reactivate.

§ 77.30-90 Vessels contracted for prior to November 19, 1952.

(a) Vessels contracted for prior to November 19, 1952, shall meet the following requirements:

(1) The requirements of §§ 77.30-5 through 77.30-15 shall be complied with insofar as the number of items of equipment and the method of stowage of the equipment is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications set forth in § 77.30-5, may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in

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Charge, Marine Inspection, but all new installations or replacements shall meet the applicable specifications or requirements.

Subpart 77.35—Fireman's Outfit

§ 77.35-1 Application.

(a) The provisions of this subpart, with the exception of § 77.35-90, shall apply to all vessels on an international voyage contracted for on or after May 26, 1965. Such vessels contracted for prior to May 26, 1965, shall meet the requirements of § 77.35-90.

§ 77.35-5 General.

(a) All flame safety lamps shall be of an approved type, constructed in accordance with subpart 160.016 of subchapter Q (Specifications) of this chapter.

(b) All self-contained breathing apparatus shall be of an approved type, constructed in accordance with subpart 160.011 of subchapter Q (Specifications) of this chapter.

(c) Flashlights shall be Type II or Type III, constructed and marked in accordance with ASTM F1014-1986.

(d) All lifelines shall be of steel or bronze wire rope. Steel wire ropes shall be either inherently corrosion resistant, or made so by galvanizing or tinning. Each end shall be fitted with a hook with keeper having throat opening which can be readily slipped over a 3/8-inch bolt. The total length of the lifeline shall be dependent upon the size and arrangement of the vessel, and more than one line may be hooked together to achieve the necessary length. No individual length of lifeline may be less than 50 feet in length. The assembled lifeline shall have a minimum breaking strength of 1,500 pounds.

(e) All equipment shall be maintained in an operative condition, and it shall be the responsibility of the master and chief engineer to ascertain that a sufficient number of the crew are familiar with the operation of the equipment.

(f) Boots and gloves shall be of rubber or other electrically nonconducting material.

(g) The helmet shall provide effective protection against impact.

(h) Protective clothing shall be of material that will protect the skin from the heat of fire and burns from scalding steam. The outer surface shall be water resistant.

[CGFR 65-50, 30 FR 16953, Dec. 30, 1965, as amended by CGFR 67-87, 32 FR 19181, Dec. 20, 1967; CGD 82-042, 53 FR 17704, May 18, 1988]

§ 77.35-10 Fireman's outfit.

(a) A fireman's outfit shall consist of one self-contained breathing apparatus with lifeline attached, one flashlight, one flame safety lamp, a rigid helmet, boots and gloves, protective clothing, and one fire ax.

(b) The number of fireman's outfits required are as set forth in Table 77.35-10(b).

TABLE 77.35-10(b)

Gross tonnage		Minimum number of fireman's outfits
Over—	Not over—	
	10,000	2
10,000	20,000	3
20,000		4

[CGFR 65-50, 30 FR 16953, Dec. 30, 1965, as amended by CGFR 67-87, 32 FR 19181, Dec. 20, 1967]

§ 77.35-15 Stowage.

(a) The fireman's outfit, together with such other items of equipment as the master may deem necessary, shall be stowed in convenient, accessible locations for use in case of emergency. One outfit shall be stowed in or near the pilothouse. Where additional outfits are required by Table 77.35-10(b), one of the additional outfits shall be stowed preferably adjacent to the main entrance to the machinery space. Other additional outfits shall be stowed in convenient accessible locations remote from the pilothouse.

§ 77.35-20 Spare charges.

(a) A complete recharge shall be carried for each self-contained breathing apparatus, and a complete set of spare batteries shall be carried for each flashlight. The spares shall be stowed

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in the same location as the equipment it is to reactivate.

§ 77.35-90 Vessels contracted for prior to May 26, 1965.

(a) Vessels contracted for prior to May 26, 1965, shall meet the following requirements:

(1) The requirements of §§ 77.35-5 through 77.35-20 shall be complied with insofar as the number of items of equipment and the method of stowage of the equipment is concerned. Existing items of equipment previously approved, but not meeting the applicable specifications set forth in § 77.35-5, may be continued in service so long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection, but all new installations or replacements shall meet the applicable specifications or requirements.

Subpart 77.40—Pilot Boarding Equipment

§ 77.40-1 Pilot boarding equipment.

(a) This section applies to each vessel that normally embarks or disembarks a pilot from a pilot boat or other vessel.

(b) Each vessel must have suitable pilot boarding equipment available for use on each side of the vessel. If a vessel has only one set of equipment, the equipment must be capable of being easily transferred to and rigged for use on either side of the vessel.

(c) Pilot boarding equipment must be capable of resting firmly against the vessel's side and be secured so that it is clear from overboard discharges.

(d) Each vessel must have lighting positioned to provide adequate illumination for the pilot boarding equipment and each point of access.

(e) Each vessel must have a point of access that has—

(1) A gateway in the rails or bulwark with adequate handholds; or

(2) Two handhold stanchions and a bulwark ladder that is securely attached to the bulwark rail and deck.

(f) The pilot boarding equipment required by paragraph (b) of this section must include at least one pilot ladder approved under subpart 163.003 of this chapter. Each pilot ladder must be of

a single length and capable of extending from the point of access to the water's edge during each condition of loading and trim, with an adverse list of 15°.

(g) Whenever the distance from the water's edge to the point of access is more than 30 feet, access from a pilot ladder to the vessel must be by way of an accommodation ladder or equally safe and convenient means.

(h) Pilot hoists, if used, must be approved under subpart 163.002 of this chapter.

[CGD 79-032, 49 FR 25455, June 21, 1984]

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AUTHORITY: 33 U.S.C. 1321(j); 46 U.S.C. 3306, 8101, 8103; 49 U.S.C. App. 1804; E.O.

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11735, 38 FR 21243; 3 CFR, 1971-1975 Comp., p. 793; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 65-50, 30 FR 16955, Dec. 30, 1965, unless otherwise noted.

Subpart 78.01—Application

§ 78.01-1 General.

(a) The provisions of this part shall apply to all vessels except as specifically noted.

Subpart 78.03—Penalties

§ 78.03-1 General.

(a) The marine safety and criminal statutes provide penalties for the violation of the applicable provisions of this subchapter, which penalties, depending upon the gravity of the violation, are as follows:

- (1) Assessment and collections of civil monetary penalty.
- (2) Criminal prosecution where no loss of life results.
- (3) Criminal prosecution for manslaughter where loss of life results from violation of statute or regulation or from misconduct, negligence, or inattention to duty.
- (4) Libel against vessel.

(b) In addition to the foregoing, any licensed or certificated personnel committing an act of misbehavior, negligence, unskillfulness, endangering life, violation of marine safety statutes or regulations or requirements thereunder, and incompetency shall be subject to proceedings under the provisions of 46 U.S.C. 239 and regulations thereunder (46 CFR part 5) with respect to suspension or revocation of license or certificate.

Subpart 78.05—Notice to Mariners and Aids to Navigation

§ 78.05-1 Duty of officers.

(a) Licensed deck officers are required to acquaint themselves with the latest information published by the Coast Guard and the U.S. Navy regarding aids to navigation. Neglect to do so is evidence of neglect of duty. It is desirable that all vessels have available in the pilothouse for convenient

reference at all times a file of the applicable Notice to Mariners.

(b) Weekly Notices to Mariners (Great Lakes Edition), published by the Commander, 9th Coast Guard District, contain announcements and information on changes in aids to navigation and other marine information affecting the safety of navigation on the Great Lakes. These notices may be obtained free of charge, by making application to Commander, 9th Coast Guard District.

(c) Weekly Notices to Mariners (Worldwide coverage) are prepared jointly by the U.S. Naval Oceanographic Office, the U.S. Coast and Geodetic Survey and the U.S. Coast Guard. They include changes in aids to navigation in assembled form for the 1st, 3d, 5th, 7th, Greater Antilles Section, 8th, 11th, 12th, 13th, 14th, and 17th Coast Guard Districts. Foreign marine information is also included in these notices. These notices are available without charge from the U.S. Naval Oceanographic Office, Washington, DC 20390, Branch Oceanographic Offices, U.S. Collector of Customs of the major seaports in the United States and are also on file in the U.S. Consulates where they may be inspected.

[CGFR 66-33, 31 FR 15283, Dec. 6, 1966, as amended by CGFR 68-32, 33 FR 5717, Apr. 12, 1968]

§ 78.05-5 Charts and nautical publications.

As appropriate for the intended voyage, all vessels except barges, ferryboats and vessels operating exclusively on rivers, must carry adequate and up-to-date—

- (a) Charts;
- (b) Sailing directions;
- (c) Coast pilots;
- (d) Light lists;
- (e) Notices to mariners;
- (f) Tide tables;
- (g) Current tables; and
- (h) All other nautical publications necessary.¹

¹For United States vessels in or on the navigable waters of the United States, see 33 CFR 164.33.

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[CGD 75-074, 42 FR 5963, Jan. 31, 1977]

Subpart 78.07—Notice and Reporting of Casualty and Voyage Records**§ 78.07-1 Notice and reporting of casualty and voyage records.**

The requirements for providing notice and reporting of marine casualties and for retaining voyage records are contained in part 4 of this chapter.

[CGD 84-099, 52 FR 47535, Dec. 14, 1987]

Subpart 78.10—Persons Allowed in Pilothouse and on Navigation Bridge**§ 78.10-1 Persons excluded.**

(a) Masters and pilots shall exclude from the pilothouse and navigator's bridge while under way, all persons not connected with the navigation of the vessel. However, inspectors of the Coast Guard, licensed officers of vessels, persons regularly engaged in learning the profession of pilot, officers of the Coast Guard, United States Navy, United States Coast and Geodetic Survey, and the Engineer Department of the United States Army or Maritime Administration personnel, may be allowed in the pilothouse or upon the navigator's bridge upon the responsibility of the officer in charge.

Subpart 78.12—Stability Information**§ 78.12-1 Posting of stability letter.**

If a stability letter is issued under § 170.120 of this chapter, it must be posted under glass or other suitable transparent material in the pilothouse of the vessel.

[CGD 79-023, 48 FR 51007, Nov. 4, 1983]

Subpart 78.13—Station Bills**§ 78.13-1 Master's responsibility.**

(a) A station bill (muster list) shall be prepared by the master of the vessel who shall be responsible to sign such station bill and to ascertain that it is duly posted in conspicuous locations in the vessel, particularly in the crew quarters, before the vessel sails.

§ 78.13-5 Duties of crew.

(a) The station bill shall set forth the special duties and duty station of each member of the crew for the various emergencies. The duties shall, as far as possible, be comparable with the regular work of the individual. The duties shall in general include the following and, in addition, such other duties shall be assigned as are necessary in the case of the particular vessel for the proper handling of the particular emergency:

(1) The closing of airports, watertight doors, fire doors, scuppers, sanitary and other discharges which lead through the vessel's hull below the margin line, etc., the stopping of fans and ventilating systems, and the operation of all safety equipment.

(2) The preparation and launching of lifeboats, liferafts, and buoyant apparatus.

(3) The extinction of fire.

(4) The muster of passengers which shall in general be assigned to the stewards department, and shall include the following:

(i) Warning the passengers.

(ii) Seeing that the passengers are dressed and have put on their life preservers or exposure suits correctly.

(iii) Assembling the passengers and directing them to the appointed stations.

(iv) Keeping order in the passageways and stairways and generally controlling the movement of the passengers.

(v) Seeing that a supply of blankets is taken to the lifeboats.

(5) The custody of the portable radio apparatus required by Subpart 75.55 of this subchapter.

[CGFR 85-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 78-033a, 45 FR 24477, Apr. 10, 1980]

§ 78.13-10 Emergency signals.

(a) *Station bill.* (1) The station bill shall set forth the various signals to be used for the calling of the crew to their stations and for giving instructions while at their stations. These signals shall be as set forth in this section.

(b) *Fire alarm stations.* (1) The fire alarm signal shall be a continuous

blast of the whistle for a period of not less than 10 seconds supplemented by the continuous ringing of the general alarm bells for not less than 10 seconds.

(2) For dismissal from fire alarm stations, the general alarm shall be sounded three times supplemented by three short blasts of the whistle.

(c) *Boat stations.* (1) The signal for boat stations or boat drill shall be a succession of more than six short blasts followed by one long blast of the whistle supplemented by a comparable signal on the general alarm bells.

(2) Where whistle signals are used for handling the lifeboats, they shall be as follows:

(i) To lower lifeboats, one short blast.

(ii) To stop lowering the lifeboats, two short blasts.

(3) For dismissal from boat stations, there shall be three short blasts of the whistle.

(d) *River vessels.* (1) In the case of river vessels, the ship's bell may be used in lieu of the whistle signals stipulated in this section.

(e) *Other emergency signals.* (1) The master of any vessel may establish such other emergency signals, in addition to the above, as will provide that all officers, crew, and passengers will have positive and certain notice of the existing emergency.

§ 78.13-15 Emergency squad.

(a) Where the size of the crew permits, the station bill shall include an emergency squad which shall be organized by the master to form the nucleus of the damage control party. This squad should be specially trained in the use of all emergency and rescue equipment and should be made generally familiar with the vessel and fundamentals of damage control.

(b) The nature of the signals or other means for assembling the emergency squad shall be left to the discretion of the master, but such signals shall not conflict with navigational or general alarm signals.

§ 78.13-20 Master to instruct crew.

(a) The master shall conduct such drills and give such instructions as are necessary to insure that all hands are

familiar with their duties as specified in the station bill.

Subpart 78.14—Manning of Lifeboats and Liferrafts

§ 78.14-1 Application.

(a) The provisions of this subpart shall apply to all vessels.

§ 78.14-5 Person in command of lifeboat or liferaft.

(a) For vessels in ocean service, a licensed deck officer, an able seaman, or a certificated lifeboatman shall be placed in command of each lifeboat or liferaft. When two or more certificated lifeboatmen are required by Table 78.14-10(a), a second in command shall also be appointed which person shall be either a licensed deck officer, an able seaman or a certificated lifeboatman.

(b) For vessels in services, other than ocean service, the master shall appoint a person in command of each lifeboat and each liferaft. Except for vessels in river service, this person shall be either a licensed deck officer, an able seaman or a certificated lifeboatman.

(c) The person in charge of each lifeboat or liferaft shall have a list of its crew, and shall see that the persons under his orders are acquainted with their several duties.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19986, Dec. 28, 1968]

§ 78.14-10 Certificated lifeboatmen.

(a) Except for vessels in river service, there shall be for each lifeboat and each liferaft a number of certificated lifeboatmen men equal to that specified in Table 78.14-10(a).

TABLE 78.14-10(a)

Prescribed complement of lifeboat or liferaft	Not over—	Minimum number of lifeboatmen ¹	
		Ocean service	All services other than ocean ²
Over—			
25.....	25	2	1
40.....	40	2	2
60.....	60	3	3

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TABLE 78.14-10(a)—Continued

Prescribed complement of lifeboat or liferaft	Minimum number of lifeboatman ¹		
	Over—	Not over—	All services other than ocean ²
60		85	4
65		110	5
110			6

¹ Only one certificated lifeboatman required for each inflatable liferaft.

² Certificated lifeboatmen not required in river service.

(b) The allocation of the certificated lifeboatmen to each lifeboat and each liferaft shall be at the discretion of the master according to circumstances.

[CGFR 65-50, 30 FR 18955, Dec. 30, 1965, as amended by CGFR 68-65, 33 FR 19986, Dec. 28, 1968]

§ 78.14-15 Motor-propelled lifeboat.

(a) The master shall assign to each motor-propelled lifeboat a man capable of working the motor.

§ 78.14-20 Lifeboat carrying a radio-telegraph or searchlight.

(a) The master shall assign to each lifeboat carrying a radiotelegraph and/or searchlight a man capable of operating such equipment.

[CGFR 68-32, 33 FR 5717, Apr. 12, 1968]

Subpart 78.15—Doors Closed at Sea

§ 78.15-1 Subdivision bulkheads.

(a) All watertight doors in subdivision bulkheads shall be kept closed during navigation except when necessarily opened for working of the vessel, and in such cases they shall always be ready to be immediately closed.

Subpart 78.16—Port Lights

§ 78.16-1 General.

If port lights are fitted in spaces used alternatively for the carriage of cargo or passengers as permitted by § 171.118(d) of this chapter, dead covers must be fitted on the port lights when cargo is carried.

[CGD 79-023, 48 FR 51007, Nov. 4, 1983]

Subpart 78.17—Tests, Drills, and Inspections

§ 78.17-1 Application.

(a) Except as specifically noted, the provisions of this subpart shall apply to all vessels.

§ 78.17-3 Watertight doors.

(a) It shall be the duty of the master to see that all watertight doors in subdivision bulkheads that may be opened at sea, and all mechanisms, remote controls, and indicators connected therewith, shall be periodically inspected at least once in each week that the vessel is navigated to be assured that they are in proper operating condition. On vessels in which the voyage exceeds one week in duration, these doors shall be operated before the vessel leaves port. All such doors shall be operated daily.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

§ 78.17-5 Valves and closing appliances.

(a) It shall be the duty of the master to see that all valves, including cross connecting valves where fitted, and other appliances such as port lights, closing mechanism of scuppers, ash chutes, and rubbish chutes, the closing of which is necessary to make a compartment watertight, are operated at least once in every week that the vessel is navigated to be assured that they are in proper operating condition. Any remote controls or indicating mechanisms shall be inspected at this time to test their efficiency. Where such valves are accessible, they shall be inspected at this time, otherwise, they shall be inspected at the first opportunity when they are accessible. On vessels in which the voyage exceeds one week in duration, these appliances shall be operated before the vessel leaves port.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

§ 78.17-10 Loudspeaker system.

(a) Where fitted, the complete loudspeaker system shall be tested at least

once every week. This test shall be made by an officer of the vessel.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

CROSS REFERENCE: See subchapter J (Electrical Engineering) of this chapter for details.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 74-125A, 47 FR 15231, Apr. 8, 1982]

§ 78.17-15 Steering gear, whistle, and means of communication.

(a) On all vessels making a voyage of more than 48 hours' duration, the entire steering gear, the whistle, and the means of communication between the bridge or pilothouse and the engine room shall be examined and tested by an officer of the vessel within a period of not more than 12 hours prior to departure. On all other vessels similar examinations and tests shall be made at least once every week.

(b) The date of the test and the condition of the equipment shall be noted in the official logbook.

§ 78.17-20 Drafts and load line markings.

(a) The master of every vessel on an ocean, coastwise, or Great Lakes voyage shall enter the drafts of the vessel, forward and aft, in the official logbook when leaving port.

(b) On vessels subject to the requirements of subchapter E (Load Lines) of this chapter, at the time of departure from port on an ocean, coastwise, or Great Lakes voyage, the master shall insert in the official logbook a statement of the position of the subdivision load line mark, port and starboard, in relation to the surface of the water in which the vessel is then floating.

(1) When the draft of the vessel is limited by a seasonal load line located below the subdivision load line, the position of the applicable seasonal load line shall be entered in relation to the surface of the water in which the vessel is floating.

(2) When an allowance for draft is made for density of the water in which the vessel is floating, this density is to be noted in the official logbook.

§ 78.17-25 Sanitation.

(a) It shall be the duty of the master and chief engineer to see that the vessel and, in particular, the passenger and crew quarters are in a clean and sanitary condition. The chief engineer shall be responsible only for the sanitary condition of the engineering department.

§ 78.17-30 Examination of boilers and machinery.

(a) It shall be the duty of the chief engineer when he assumes charge of the boilers and machinery of a vessel to examine them thoroughly. If any parts thereof are in bad condition, or if the safety valve seals are broken, the fact shall immediately be reported to the master, owner or agent, and the Officer in Charge, Marine Inspection.

§ 78.17-35 Hatches and other openings.

(a) It shall be the responsibility of the master to assure himself before leaving protected waters that all exposed cargo hatches of his vessel are closed and made properly tight.

(b) The following doors, portable plates, ports, and other openings shall be kept closed while the vessel is being navigated, and shall be closed before the vessel commences a voyage:

(1) Watertight doors between cargo spaces prescribed in § 170.275 of this chapter.

(2) Portable plates in watertight bulkheads prescribed in § 171.111(b) of this chapter.

(3) Gangway, cargo, and coaling ports fitted below the margin line that is determined in accordance with § 171.015 of this chapter.

(4) On ocean, coastwise, or Great Lakes vessels of 150 gross tons and over, all opening type port lights in a 'tween deck, if the sill of any port light in that 'tween deck, is below a line drawn parallel to the bulkhead deck at side and having its lowest point 4½ feet plus 2½ percent of the breadth of the vessel above the water when the vessel departs from port. The Commandant may indicate the limiting mean draft which would allow such port lights to be opened at sea.

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(5) Port lights that are not accessible during navigation. Dead covers on such port lights shall also be secured.

(6) Port lights in spaces appropriated alternately to the carriage of cargo and passengers, when cargo is carried. Dead covers on such port lights shall also be secured.

(c) The time of opening and closing of hatches and other openings noted in this section shall be entered in the official logbook. In the event that the master at his discretion does not secure the hatches, a notation of this fact shall be made in the official logbook. If it becomes essential for the safety of the vessel to open any of the fittings noted in this section while at sea, the circumstances and the time of opening and closing shall be entered in the official logbook.

(d) The time of opening, closing, and securing, at sea, of watertight doors fitted between bunkers for the purpose of trimming coal, shall be entered in the official logbook.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 79-023, 48 FR 51007, Nov. 4, 1983]

§ 78.17-40 Line-throwing appliances.

(a) On vessels fitted with a line-throwing appliance, it shall be the duty of the master to drill his crew in the use of such appliance, and require it to be fired at least once in every 3 months. Each drill shall be recorded in the vessel's official logbook. The service line shall not be used for drill purposes. The drill shall be conducted as follows:

(1) For impulse-projected rocket type, by actually firing the rocket with any flexible line of proper size and length, suitably faked or laid out.

(2) For shoulder gun type, by actually firing, using the regular cartridge and projectile with any flexible line of proper size and length, suitably faked or laid out.

(3) For Lyle gun type, by actually firing, using 2½ ounces of powder, the regular service projectile with any flexible line of proper size and length suitably faked or laid out.

§ 78.17-45 Emergency lighting and systems.

(a) It shall be the duty of the master to see that the emergency lighting and power systems are operated and inspected at least once in each week while the vessel is navigated to be in proper condition.

(b) Internal combustion engine driven emergency generators shall be operated under load for at least 1 hour, at least once in each week that the vessel is navigated.

(c) Storage batteries for emergency lighting and power systems shall be tested at least once each week. The period that the vessel is navigated shall demonstrate the ability of the battery to supply the emergency power for the period of time specified in Table 112.05-5(a) of this chapter.

(d) The date of the tests, the condition and performance of the apparatus shall be noted in the official logbook.

[CGFR 65-50, 30 FR 16959, Dec. 30, 1965, as amended by CGFR 70-143, 35 FR 1000, Dec. 30, 1970]

§ 78.17-50 Fire and boat drills.

(a) The master shall be responsible for conducting a fire and boat drill at least once in every week. In the case of a vessel where the duration of the voyage exceeds 1 week, a fire and boat drill shall be held before the vessel leaves port and at least once thereafter. On all vessels on international voyage other than on international voyage, a must be held within 24 hours after the vessel leaves port.

(b) The fire and boat drills shall be conducted as if an actual fire and boat drill existed. All hands should be at their respective stations and be prepared to perform the duties assigned in the station bill.

(1) Fire pumps shall be tested to ascertain that the system is in proper working order.

(2) All rescue and safety equipment shall be brought from the equipment lockers and

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designated shall demonstrate their ability to use the equipment.

(3) All watertight doors which are in use while the vessel is under way and all fire doors shall be operated.

(4) Weather permitting, lifeboat covers and strongbacks shall be removed, plugs or caps put in place, boat ladders secured in position, painters led forward and tended, and other lifesaving equipment prepared for use. The motor and hand-propelling gear of each lifeboat, where fitted, shall be operated for at least 5 minutes.

(5) The passengers must be encouraged to fully participate in these drills and must be instructed in the proper method of donning and adjusting life preservers of the type carried on the vessel and informed of the life preserver stowage locations.

(6) In port, every lifeboat shall be swung out, if practicable, and the unobstructed lifeboats shall be lowered to the water and the crew exercised in the use of the oars and other means of propulsion if provided for the lifeboat. Although all lifeboats may not be used in a particular drill, care shall be taken that all lifeboats are given occasional use to ascertain that all lowering equipment is in proper order and the crew properly trained. The master shall be responsible that each lifeboat is lowered to the water at least once in each 3 months.

(7) When the vessel is under way, and weather permitting, all lifeboats shall be swung out to ascertain that the gear is in proper order.

(8) The person in charge of each lifeboat and liferaft shall have a list of its crew and shall see that the men under his command are acquainted with their duties.

(c) It shall be the duty of the master to ascertain that in connection with the fire and boat drills, or at other times, each member of the crew has been drilled and exercised in pulling oars in lifeboats at least once in each 3 months. In addition, the crew of each motor-propelled lifeboat shall demonstrate their ability in the working of the engine and handling of the lifeboat under power, and the crew of each hand-propelled lifeboat shall demonstrate their ability in the operation of the hand-propelling gear and

the operation of the lifeboat under hand power within the same time.

(d) An entry shall be made in the vessel's official logbook relative to each fire and boat drill setting forth the date and hour, length of time of the drill, numbers on the lifeboats swung out and numbers on those lowered, the length of time that motor and hand-propelled lifeboats are operated, the number of lengths of hose used, together with a statement as to the condition of all fire and lifesaving equipment, watertight door mechanisms, valves, etc. If in any week the required fire and boat drills are not held or only partial drills are held, an entry shall be made stating the circumstances and extent of the drills held.

(e) Three copies of certain sections from this part, Form CG-809, shall be framed under glass and posted in conspicuous places about the vessel. These forms may be obtained from the Officer in Charge, Marine Inspection.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 75-009, 41 FR 13923, Apr. 1, 1976; CGD 78-009, 45 FR 11110, Feb. 19, 1980]

§ 78.17-52 Exposure suits.

The master of each vessel when operating on the Great Lakes shall ensure that—

(a) Each crew member wears an exposure suit in at least one fire and boat drill per month; and

(b) In each fire and boat drill, each passenger is instructed in the use of exposure suits.

[CGD 76-033a, 45 FR 24477, Apr. 10, 1980]

§ 78.17-55 Electric power operated lifeboat winches.

(a) It shall be the duty of the master to see that all lifeboat winch control apparatus, including motor controllers, emergency switches, master switches, and limit switches, are examined at least once in each 3 months. The examination shall include the removal of drain plugs and/or the opening of drain valves in such appliances to assure that the enclosures are free of water.

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(b) The date of the examinations required by this section and the condition of the equipment shall be noted in the official logbook.

§ 78.17-60 Lifeboats, liferafts, lifeboats, and buoyant apparatus.

(a)(1) It shall be the duty of the master or person in charge to see that the lifeboats, rescue boats, liferafts, lifeboats, and buoyant apparatus are properly maintained at all times, and that all equipment for his vessel required by the regulations in this subchapter is provided, maintained, and replaced as indicated.

(2) The master shall assign to one or more officers the duty of seeing that the lifeboats, rescue boats, liferafts, lifeboats, and buoyant apparatus are at all times ready for immediate use.

(3) The decks on which lifeboats, rescue boats, liferafts, lifeboats, and buoyant apparatus are stowed shall be kept clear of cargo or any other obstructions which would interfere with the immediate launching of such equipment.

(b) Where motor-propelled lifeboats are carried, the motor of each lifeboat shall be operated in the ahead and astern position for a period of not less than 5 minutes at least once in each week.

(c) All lifeboats, rescue boats and rigid type liferafts shall be stripped, cleaned, and thoroughly overhauled at least once in every year. When lifeboats are removed from a vessel for this purpose on a rotational basis, the installation test prescribed by subpart 75.35 need not be made.

(d) The fuel tanks of all motor-propelled lifeboats shall be emptied and the fuel changed at least once in every year.

(e) All lifeboats and buoyant apparatus shall be cleaned and thoroughly overhauled at least once in every year.

(f) Inflatable liferafts shall be serviced at an approved service facility every 12 months or not later than the next vessel inspection for certification provided the time since date of last servicing does not exceed 15 months. Except in emergencies no servicing shall be done aboard vessels.

§ 78.17-65 Smoke detecting system.

(a) It shall be the duty of the master to see that the smoke inlets in cargo holds are examined at least once in each 3 months by the ship's personnel to determine if the inlets are obstructed by corrosion, paint, dust, or other extraneous matter. Smoke tests shall be made in all holds and the system found or made operable. The date of the test and condition of the system shall be entered in the log.

§ 78.17-70 Radio apparatus for lifeboats.

(a) It shall be the duty of the master to require that all batteries for all fixed and portable radio apparatus for lifeboats are brought up to full charge weekly if the batteries are of a type which require recharging.

(b) In any case, the transmitter shall be tested weekly using a suitable artificial aerial.

§ 78.17-75 Requirements for fuel oil.

(a) It shall be the duty of the chief engineer to cause an entry in the log be made of each supply of fuel oil received on board, stating the quantity received, the name of the vendor, the name of the oil producer, and the flashpoint (Pensky-Martens Closed Cup Method, ASTM-D93) for which it is certified by the producer.

(b) It shall be the further duty of the chief engineer to cause to be drawn and sealed and suitably labeled at the time the supply is received on board, a half-pint sample of each lot of fuel oil. These samples shall be preserved until the particular supply of oil is exhausted.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGFR 68-82, 33 FR 18899, Dec. 18, 1968]

§ 78.17-80 Firefighting equipment, general.

(a) It shall be the duty of the owner, master, or person in charge to see that the vessel's firefighting equipment is at all times ready for use and that all such equipment required by the regulations in this subchapter is provided, maintained, and replaced as indicated.

(b) It shall be the duty of the owner, master, or person in charge to require and have performed at least once in

every twelve months the tests and inspections of all hand portable fire extinguishers, semiportable fire extinguishing systems, and fixed fire extinguishing systems on board, as described in Tables 71.25-20(a) (1) and 71.25-20(a) (2) in § 71.25-20 of this subchapter. The owner, master, or person in charge shall keep records of such tests and inspections showing the dates when performed, the number and/or other identification of each unit tested and inspected, and the name(s) of the person(s) and/or company conducting the tests and inspections. Such records shall be made available to the inspector upon request and shall be kept for the period of validity of the vessel's current certificate of inspection. Where practicable these records should be kept in or with the vessel's log book. The conduct of these tests and inspections does not relieve the owner, master, or person in charge of his responsibility to maintain this firefighting equipment in proper condition at all times.

§ 78.17-85 Emergency position indicating radio beacon (EPIRB).

The master shall make sure that each EPIRB other than an EPIRB in an inflatable life raft—

(a) Is tested monthly, using the visual or audible output indicator to determine that it is operative; and

(b) Has its battery replaced—

(1) Immediately after the EPIRB is used for purposes other than testing, and—

(2) On or before the marked expiration date.

[CGD 80-024, 49 FR 40409, Oct. 16, 1984]

§ 78.17-90 Personal flotation device lights.

(a) Each personal flotation device light that has a non-replaceable power source must be replaced on or before the expiration date of its power source.

(b) Each replaceable power source for a personal flotation device light must be replaced on or before its expiration date and the light must be replaced when it is no longer serviceable.

[CGD 76-028, 44 FR 38784, July 2, 1979]

Subpart 78.19—Auto Pilot

§ 78.19-1 Use of auto pilot.

Except as provided in 33 CFR 164.15, when the automatic pilot is used in—

(a) Areas of high traffic density;

(b) Conditions of restricted visibility; and

(c) All other hazardous navigational situations, the master shall ensure that—

(1) It is possible to immediately establish manual control of the ship's steering;

(2) A competent person is ready at all times to take over steering control; and

(3) The changeover from automatic to manual steering and vice versa is made by, or under, the supervision of the officer of the watch.

[CGD 75-074, 42 FR 5963, Jan. 31, 1977]

Subpart 78.20—Steering Orders

§ 78.20-1 Method of communicating.

(a) All steering orders shall be given and communicated in terms of "right rudder" where it is intended that the top of the wheel, the rudder blade, and the head of the ship should go to the right, and "left rudder" where it is intended that the top of the wheel, the rudder blade, and the head of the ship should go to the left.

Subpart 78.21—Maneuvering Characteristics

§ 78.21-1 Data required.

For each ocean and coastwise vessel of 1,600 gross tons and over, the following apply:

(a) The following maneuvering information must be prominently displayed in the pilothouse on a fact sheet:

(1) For full and half speed, a turning circle diagram to port and starboard that shows the time and the distance of advance and transfer required to alter the course 90 degrees with maximum rudder angle and constant power settings.

(2) The time and distance to stop the vessel from full and half speed while maintaining approximately the initial

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heading with minimum application of rudder.

(3) For each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds.

(4) For each vessel with a controllable pitch propeller a table of control settings for a representative range of speeds.

(5) For each vessel that is fitted with an auxiliary device to assist in maneuvering, such as a bow thruster, a table of vessel speeds at which the auxiliary device is effective in maneuvering the vessel.

(b) The maneuvering information must be provided in the normal load and normal light condition with normal trim for a particular condition of loading assuming the following—

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Deep water conditions—water depth twice the vessel's draft or greater; and

(4) Clean hull.

(c) At the bottom of the fact sheet, the following statement must appear:

WARNING

The response of the (name of the vessel) may be different from those listed above if any of the following conditions, upon which the maneuvering information is based, are varied:

(1) Calm weather—wind 10 knots or less, calm sea;

(2) No current;

(3) Water depth twice the vessel's draft or greater;

(4) Clean hull; and

(5) Intermediate drafts or unusual trim.

(d) The information on the fact sheet must be:

(1) Verified six months after the vessel is placed in service; or

(2) Modified six months after the vessel is placed into service and verified within three months thereafter.

(e) The information that appears on the fact sheet may be obtained from:

(1) Trial trip observations;

(2) Model tests;

(3) Analytical calculations;

(4) Simulations;

(5) Information established from another vessel of similar hull form, power, rudder and propeller; or

(6) Any combination of the above.

The accuracy of the information in the fact sheet required is that attainable by ordinary shipboard navigation equipment.

(f) The requirements for information for fact sheets for specialized craft such as semi-submersibles, hydrofoils, hovercraft and other vessels of unusual design will be specified on a case by case basis.

[CGD 73-78, 40 FR 2689, Jan. 15, 1975, as amended by CGD 79-165a, 45 FR 64189, Sept. 29, 1980]

Subpart 78.23—Whistling

§ 78.23-1 Unnecessary whistling prohibited.

(a) The unnecessary sounding of the vessel's whistle is prohibited within any harbor limits of the United States.

Subpart 78.25—Unauthorized Lights

§ 78.25-1 Unauthorized lights prohibited.

(a) The master shall not authorize or permit the carrying of any lights not required by law that in any way will interfere with the distinguishing of the signal lights.

Subpart 78.27—Searchlights

§ 78.27-1 Improper use prohibited.

(a) No person shall flash or cause to be flashed the rays of a search light or other blinding light onto the bridge or into the pilothouse of any vessel under way.

Subpart 78.30—Lookouts, Pilothouse Watch, Patrolmen, and Watchmen

§ 78.30-5 Pilothouse watch.

(a) In addition to the licensed deck officer or pilot, there shall be at least one member of the crew also on watch in or near the pilothouse at all times when the vessel is being navigated.

§ 78.30-10 Supervised patrol.

(a) The provisions of this section shall apply to all vessels on an international voyage, and to all other vessels having berthed or stateroom accommodations for passengers. This section

shall be applicable at all times when passengers are on board.

(b) Between the hours of 10 p.m. and 6 a.m., a supervised patrol shall be maintained so as to completely cover all parts of the vessel accessible to passengers or crew, excepting occupied sleeping accommodations and machinery spaces and similar spaces where a regular watch is maintained.

(c) Clocks, keys, and recording apparatus shall be of an approved type. The station boxes shall have seals placed over the securing screws in order to leave evidence of removal or tampering.

(d) Clocks or key stations shall be so arranged throughout the vessel so as to assure complete coverage of all accessible spaces required by paragraph (b) of this section. The number and location of recording stations, the order in which they are visited, and the number undertaken by one patrolman shall be specifically approved. The stations shall be numbered as required by § 78.47-23. Sufficient watchmen shall be available so that each space will be covered at least once in every hour except as follows:

(1) On existing vessels not constructed in general agreement with §§ 72.05-5 through 72.05-60, of this subchapter, the supervised patrol shall cover all spaces required by paragraph (b) of this section at least once in every 20 minutes.

(2) Public spaces constructed in general agreement with §§ 72.05-5 through 72.05-60, of this subchapter, shall have either an approved fire detecting system installed in such spaces or the supervised patrol shall cover these spaces at least once in every 20 minutes.

(e) The patrolman shall report to the bridge at least once an hour on vessels where the supervised patrol system is not equipped with a recording apparatus in the control station. In vessels requiring more than one patrol route, one patrolman may contact others and make a joint report to the bridge. Failure of a patrolman to follow a prescribed route, or to record each station within the specified time, shall be entered on the record along with the reason for the irregularity.

(f) The patrolman while on duty shall wear a distinctive uniform or badge, and shall have in his possession at all times an efficient flashlight.

(g) A patrolman on duty shall have no other tasks assigned to him.

§ 78.30-15 Watchmen.

(a) The provisions of this section shall apply to all vessels not required to have a supervised patrol under the provisions of § 78.30-10. This section shall be applicable at all times when passengers are on board.

(b) During the nighttime, a suitable number of watchmen shall be stationed in the passenger accommodation areas on each deck.

(c) Watchmen shall be under the direct charge of the master or officer in command of the vessel, and shall report to such officer at the pilot-house at fixed intervals not exceeding one hour. Watchmen shall not be required to perform any other duties while on watch.

(d) The uniform of the night watchman shall be conspicuously different from other persons so as to be readily distinguished. A rating badge marked "Watchman" shall be worn on the left sleeve and the front of the cap shall also be marked "Watchman".

(e) The watchman shall have in his possession at all time while on duty an efficient flashlight.

§ 78.30-20 Master's and officer's responsibility.

(a) Nothing in this part shall exonerate any master or officer in command from the consequences of any neglect to keep a proper lookout or to maintain a proper fire watch or from any neglect of any precaution which may be required by the ordinary practice of seamen or by the special circumstances of the case. When circumstances require it, additional watches shall be maintained to guard against fire or other danger and to give an alarm in case of accident or disaster.

§ 78.30-30 Reckless or negligent operation prohibited by law.

(a) Subsection 13(a) of the Act of April 25, 1940 (46 U.S.C. 526f), reads as follows:

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No person shall operate any motorboat or any vessel in a reckless or negligent manner so as to endanger the life, limb, or property of any person. To "operate" means to navigate or otherwise use a motorboat or a vessel.

Subpart 78.33—Reports of Accidents, Repairs, and Unsafe Equipment

§ 78.33-1 Repairs of boiler and pressure vessels.

(a) Before making any repairs to boilers or unfired pressure vessels, the chief engineer shall submit a report covering the nature of the repairs to the Officer in Charge, Marine Inspection, at or nearest the port where the repairs are to be made.

§ 78.33-5 Accidents to machinery.

(a) In the event of an accident to a boiler, unfired pressure vessel, or machinery tending to render the further use of the item unsafe until repairs are made, or if by ordinary wear such items become unsafe, a report shall be made by the chief engineer immediately to the Officer in Charge, Marine Inspection, or if at sea, immediately upon arrival at port.

§ 78.33-10 Notice required before repairs.

(a) No repairs or alterations, except in an emergency, shall be made to any lifesaving or fire detecting or extinguishing equipment without advance notice to the Officer in Charge, Marine Inspection. When emergency repairs or alterations have been made, notice shall be given to the Officer in Charge, Marine Inspection, as soon as practicable.

§ 78.33-20 Breaking of safety valve seal.

(a) If at any time it is necessary to break the seal on a safety valve for any purpose, the chief engineer shall advise the Officer in Charge, Marine Inspection, at the next port of call, giving the reason for breaking the seal and requesting that the valve be examined and adjusted by an inspector.

Subpart 78.35—Cable Traveler

§ 78.35-1 When required.

(a) On vessels where the distance between deck houses is more than 150

feet, a wire cable shall be stretched between the deck houses at all times when the vessel is navigating in other than protected waters. As many loose rings with lanyards shall be attached as deemed necessary by the master. In any case, a properly constructed raised catwalk or raised bridge or a below deck passage may be substituted for the required cable.

Subpart 78.36—Work Vests

§ 78.36-1 Application.

(a) Provisions of this subpart shall apply to all vessels inspected and certificated in accordance with this subchapter.

§ 78.36-5 Approved types of work vests.

(a) Each buoyant work vest carried under the permissive authority of this section must be approved under—

- (1) Subpart 160.053 of this chapter, or
- (2) Subpart 160.077 of this chapter as a commercial hybrid PFD.

[CGD 78-174A, 51 FR 4350, Feb. 4, 1986]

§ 78.36-10 Use.

(a) Approved buoyant work vests are considered to be items of safety apparel and may be carried aboard vessels to be worn by crew members when working near or over the water under favorable working conditions. They shall be used under the supervision and control of designated ship's officers. When carried, such vests shall not be accepted in lieu of any portion of the required number of approved life preservers and shall not be substituted for the approved life preservers required to be worn during drills and emergencies.

§ 78.36-15 Shipboard stowage.

(a) The approved buoyant work vests shall be stowed separately from the regular stowage of approved life preservers.

(b) The locations for the stowage of work vests shall be such as not to be easily confused with that for approved life preservers.

§ 78.36-20 Shipboard inspections.

(a) Each work vest shall be subject to examination by a marine inspector to determine its serviceability. If found to be satisfactory, it may be continued in service, but shall not be stamped by a marine inspector with a Coast Guard stamp. If a work vest is found not to be in a serviceable condition, then such work vest shall be removed from the vessel. If a work vest is beyond repair, it shall be destroyed or mutilated in the presence of a marine inspector so as to prevent its continued use as a work vest.

§ 78.36-25 Additional requirements for hybrid work vests.

(a) In addition to the other requirements in this subpart, commercial hybrid PFD's must be—

(1) Used, stowed, and maintained in accordance with the procedures set out in the manual required for these devices by § 160.077-29 of this chapter and any limitation(s) marked on them; and

(2) Of the same or similar design and have the same method of operation as each other hybrid PFD carried on board.

[CGD 78-174A, 51 FR 4350, Feb. 4, 1986]

Subpart 78.37—Logbook Entries

§ 78.37-1 Application.

(a) Except as specifically noted, the provisions of this subpart shall apply to all vessels.

§ 78.37-3 Logbooks and records.

(a) Under various statutes or by regulations in this subchapter, vessels engaged in all trades, with the exception of vessels engaged exclusively in trade on rivers of the United States, shall have certain logbooks or records, and, when the occasion arises, it is the duty of the Master or person in charge to place therein specific entries as required by law or regulations in this subchapter.

(b) R.S. 4290, as amended (46 U.S.C. 201), states: "Every vessel making voyages from a port in the United States to any foreign port, or, being of the burden of 75 tons or upward, from a port on the Atlantic to a port on the

Pacific, or vice versa, shall have an Official Logbook; * * *." This Official Logbook is furnished gratuitously to masters of United States' flag vessels by the Coast Guard, as Form CG-706B or CG-706C, depending upon the number of persons employed as crew. There is printed in the first several pages of this Official Logbook various acts of Congress relating to logbooks and the entries required to be made therein. When a voyage is completed, or after a specified period of time is completed, the Official Logbooks with required entries therein shall be filed with the Officer in Charge, Marine Inspection, at or nearest the port where the vessel may be.

(c) For vessels other than those required to have Official Logbooks by R.S. 4290, the owners, operators, and/or masters are to supply their own logs or records in any form desired, which will be considered to take the place of the Official Logbooks and may be used for the purpose of making entries therein as required by law or regulations in this subchapter. Such logs or records are not filed with the Officer in Charge, Marine Inspection, but shall be kept available for review by a marine inspector for a period of one year after the date to which the records refer.

§ 78.37-5 Actions required to be logged.

(a) The actions and observations noted in this section shall be entered in the official log book. This section contains no requirements which are not made in other portions of this subchapter, the items being merely grouped together for convenience.

(1) Fire and Boat Drills: Weekly. See § 78.17-50.

(2) Watertight door operation: Daily and Weekly. See § 78.17-3.

(3) Valve and closing appliance operation: Weekly. See § 78.17-5.

(4) Loudspeaker system: Weekly. See § 78.17-10.

(5) Steering gear, whistle, and means of communication: Prior to departure. See § 78.17-15.

(6) Drafts and load line markings: Prior to leaving port, ocean, coastwise, and Great Lakes services only. See § 78.17-20.

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(7) Hatches and other openings: All openings and closings, or leaving port without closing, except vessels on protected waters. See § 78.17-35.

(8) Line throwing appliances: Once every 3 months. See § 78.17-40.

(9) Emergency lighting and power systems: Weekly and semiannually. See § 78.17-45.

(10) Electric power operated lifeboat winches: Once every 3 months. See § 78.17-55.

(11) Smoke Detecting System: Once every three months. See § 78.17-65.

(12) Fuel oil data: Upon receipt of fuel oil on board. See § 78.17-75.

(13) Cargo gear inspections: At least once a month. See § 71.47-70 of this subchapter.

§ 78.37-10 Official log entries.

(a) In addition to other items required to be entered in the official logbook on every vessel where an official logbook is required, all items relative to the crew and passengers, including the count of passengers carried, and to casualties shall also be entered.

(b) Except as noted in paragraph (b) (1) of this section, on any vessel where an official logbook is not required, the master shall keep a record of the correct count of all the passengers received and delivered from day to day. This record shall be open to inspection by the Coast Guard at all times. The aggregate number of the passengers carried shall be furnished to the Coast Guard whenever requested (R.S. 4467, as amended, 46 U.S.C. 460). The information shall be available for a period of one year after the date to which the records refer.

(1) The provisions of the paragraph shall not apply to ferry vessels.

Subpart 78.40—Vehicular Ferries

§ 78.40-1 Stowage of vehicles.

(a) Automobiles or other vehicles shall be stowed in such a manner as to permit both passengers and operators to get out and away from them freely in the event of fire or other disaster. Where there is insufficient clearance to provide for easy egress at all times, both passengers and operators shall be directed to leave their vehicles and to occupy other spaces reserved for them

during the crossing. The decks, where necessary, shall be definitely marked with painted lines to indicate the vehicle runways and the aisle spaces.

§ 78.40-5 Securing of vehicles.

(a) The master shall take all necessary precautions to see that automobiles or other vehicles have their motors turned off when the ferry is under way, and the motors shall not be started until the ferry is secured to the landing. In addition, the vehicles at each end shall have their wheels securely blocked, while the vessel is being navigated.

§ 78.40-10 No smoking permitted.

(a) The master shall have appropriate "No Smoking" signs posted and shall take all necessary precautions to prevent smoking or carrying of lighted or smoldering cigars, cigarettes, etc., in the deck area assigned to automobiles or other vehicles.

Subpart 78.43—Railroad Passenger Car Ferries

§ 78.43-1 Precautions for railway passenger cars.

(a) It shall be the duty of the master of any railroad passenger car ferry to see that all of the doors of the cars are unlocked and that the vestibules of the cars are open while the cars are on the ferry, to allow the persons so carried free access at all times.

Subpart 78.45—Display of Plans

§ 78.45-1 When required.

(a) Vessels of 1,000 gross tons and over, and vessels of any tonnage on an international voyage shall have permanently exhibited for the guidance of the officer in charge of the vessel the following plans:

(1) General arrangement plans showing for each deck the fire control stations, the various sections enclosed by fire-resisting bulkheads, the sections enclosed by fire-retarding bulkheads, together with particulars of the fire alarms, detecting systems, the sprinkler installation (if any), the fire extinguishing appliances, means of access to different compartments

decks, etc., and the ventilating systems including particulars of the master fan controls, the positions of dampers, the location of the remote means of stopping the fans, and identification numbers of the ventilating fans serving each section. If cargo compartments are "specially suitable for vehicles," they shall be so indicated on the plan. Alternatively, at the discretion of the Commandant, the aforementioned details may be set out in a booklet, a copy of which shall be supplied to each officer, and one copy at all times shall be available on board in an accessible position.

(2) Plans showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof, and the arrangements for the correction of any list due to flooding.

(3) Plans and booklets shall be kept up-to-date, any alteration being recorded thereon as soon as practicable.

[CGFR 66-50, 30, FR 16955, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15283, Dec. 6, 1966]

Subpart 78.47—Markings for Fire and Emergency Equipment, Etc.

§ 78.47-1 Application.

(a) The provisions of this subpart with the exception of § 78.47-90, shall apply to all vessels contracted for on or after November 19, 1952. Vessels contracted for prior to November 19, 1952, shall meet the requirements of § 78.47-90.

§ 78.47-3 General.

(a) It is the intent of this subpart to provide such markings as are necessary for the guidance of the persons on board in case of emergency. In any specific case, and particularly on small vessels, where it can be shown to the satisfaction of the Officer in Charge, Marine Inspection, that the prescribed markings are unnecessary for the guidance of the persons on board in case of emergency, such markings may be modified or omitted.

(b) In addition to English, all state-room notices, directional signs, etc., shall be printed in languages appropriate

to the service of the vessel or other action be taken to achieve the same purpose.

(c) Where in this subpart red letters are specified, letters of a contrasting color on a red background will be accepted.

§ 78.47-5 General alarm contact makers.

Each general alarm contact maker must be marked in accordance with the requirements in subchapter J (Electrical Engineering Regulations) of this chapter.

[CGD 74-125A, 47 FR 15232, Apr. 4, 1982]

§ 78.47-7 General alarm bells.

(a) All general alarm bells shall be identified by red lettering at least ½ inch high: "GENERAL ALARM—WHEN BELL RINGS GO TO YOUR STATION."

§ 78.47-9 Carbon dioxide alarm.

(a) All carbon dioxide alarms shall be conspicuously identified: "WHEN ALARM SOUNDS—VACATE AT ONCE. CARBON DIOXIDE BEING RELEASED."

§ 78.47-10 Manual alarm boxes.

(a) In all new installations, manual alarm boxes shall be clearly and permanently marked "IN CASE OF FIRE BREAK GLASS." Existing boxes not so marked with the same or equivalent wording, shall be identified either on the box or adjacent bulkhead in at least ½ inch letters "IN CASE OF FIRE BREAK GLASS." All manual alarm boxes shall be numbered in red on the adjacent bulkhead with at least ½ inch figures. The number shall agree with the number of the zone.

§ 78.47-13 Fire detecting and manual alarm, automatic sprinkler, and smoke detecting alarm bells.

(a) The fire detecting and manual alarm automatic sprinklers, and smoke detecting alarm bells in the engine room shall be identified by at least 1 inch red lettering "FIRE ALARM", "SPRINKLER ALARM" or "SMOKE DETECTING ALARM" as appropriate. Where such alarms on the bridge or in the fire control station do not form a part of an easily identifiable

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alarm cabinet, the bells shall be suitably identified as above.

§ 78.47-15 Fire extinguishing system branch lines.

(a) The branch line valves of all fire extinguishing systems shall be plainly and permanently marked indicating the spaces served.

§ 78.47-17 Fire extinguishing system controls.

(a) The control cabinets or spaces containing valves or manifolds for the various fire extinguishing systems shall be distinctly marked in conspicuous red letters at least 2 inches high—"STEAM FIRE APPARATUS", "CARBON DIOXIDE FIRE APPARATUS", "FOAM FIRE APPARATUS", "WATER SPRAY FIRE APPARATUS", "MANUAL SPRINKLING SYSTEM", or "AUTOMATIC SPRINKLING SYSTEM", as the case may be.

§ 78.47-20 Fire hose stations.

(a) Each fire hydrant shall be identified in red letters and figures at least 2 inches high "FIRE STATION NO 1," "2," "3," etc. Where the hose is not stowed in the open or behind glass so as to be readily seen, this identification shall be so placed as to be readily seen from a distance.

§ 78.47-23 Supervised patrol stations.

(a) Each supervised patrol clock or key station shall be numbered.

§ 78.47-25 Emergency squad equipment.

(a) Lockers or spaces containing equipment for the use of the emergency squad shall be marked "EMERGENCY SQUAD EQUIPMENT."

§ 78.47-27 Self-contained breathing apparatus and gas masks.

(a) Lockers or spaces containing self-contained breathing apparatus or gas masks shall be marked "SELF-CONTAINED BREATHING APPARATUS" or "GAS MASK."

§ 78.47-30 Hand portable fire extinguishers.

(a) Each hand portable fire extinguisher shall be marked with a

number and the location where stowed shall be marked with a corresponding number at least ½ inch high. Where only one type and size of hand portable fire extinguisher is carried, the numbering may be omitted.

§ 78.47-33 Emergency lights.

(a) All emergency lights shall be marked with a letter "E" at least ½ inch high.

§ 78.47-35 Fire doors.

(a) All doors in main vertical zone bulkheads or stairway enclosures, except from individual rooms such as staterooms, fan rooms, lockers, etc., shall be numbered conspicuously on an etched plate or equivalent in not less than ¾ inch letters and figures "F. S. D. 1," "2," "3," etc. If stenciled or similar notice is used, the letters and figures shall be at least 1 inch high. The number shall be conspicuous with the door in the open position.

§ 78.47-37 Watertight doors.

(a) All watertight doors in subdivision bulkheads shall be numbered conspicuously on both sides on an etched plate or equivalent in not less than ¾ inch letters and figures "W. T. D. 1," "2," "3," etc. If a stencilled or similar notice is used, the letters and figures shall be at least 1 inch high. If the construction is such that the number cannot be seen with the door in the open position, a similar number shall be placed on the frame or other location immediately adjacent to the door. All watertight door remote control stations shall be marked in the same manner, and in addition, the direction of operation of the lever or wheel to open and close the door shall be conspicuously marked.

(b) Class 1 doors fitted in accordance with the requirements in § 170.255 of this chapter must additionally be marked "RECLOSE AFTER USE."

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 79-023, 48 FR 51008, Nov. 4, 1983]

§ 78.47-38 Valves and closing appliances.

(a) All valves and closing appliances or other mechanisms which may be required to be operated for damage con-

trol purposes in case of emergency shall be conspicuously marked with letters at least 1 inch high identifying the control and the direction of operation. In all cases indication shall be provided to show whether the control is open or closed.

§ 78.47-40 Exit signs.

(a) Illuminated exit signs are required and must be installed in accordance with subchapter J (Electrical Engineering Regulations) of this chapter.

(b) Small rooms or spaces having a secondary means of escape which is not obviously apparent shall have a suitable sign in red letters "EMERGENCY EXIT" directing attention to such escape.

Cross REFERENCE: See subchapter J (Electrical Engineering) of this chapter for minimum size.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 74-125A, 47 FR 15232, Apr. 8, 1982]

§ 78.47-43 Embarkation direction signs to lifeboats.

(a) Sufficient embarkation direction signs shall be installed in passageways, stairways, etc., throughout the vessel that from any portion of the vessel normally accessible to the passengers or crew, and with all fire doors in stairway enclosures and main vertical zone bulkheads and all closed watertight doors in subdivision bulkheads, the direction of the shortest route to follow to reach the lifeboats will be apparent. The signs shall be in at least 1 inch letters with arrows of appropriate dimensions:

TO BOATS

(b) The signs near the exits to the embarkation deck shall be similar to the above, and shall indicate the boat stations nearest to the exit:

TO BOAT STATIONS

NOS. 1, 3, 5

(or 2, 4, 6, etc.)

(c) Any combination of arrows and one inch lettering which will clearly indicate the direction to be followed will be acceptable.

§ 78.47-45 Lifeboat stations.

(a) There shall be placed on the deck beams or suspended athwartship from overhead at each lifeboat station on the embarkation deck a sign in three-inch letters "LIFEBOAT STATION NO. 1," "2," "3," etc. If there is insufficient head room or no overhead structure at a boat station, a similar sign shall be permanently installed where it will be readily seen.

§ 78.47-47 Stateroom notices.

(a) Notices must be conspicuously posted in each passenger cabin and stateroom and, except as provided in paragraph (b) of this section, must contain the following information:

(1) Emergency signal:

EMERGENCY SIGNALS

FIRE AND EMERGENCY—CONTINUOUS BLAST OF THE SHIP'S WHISTLE FOR A PERIOD OF NOT LESS THAN 10 SECONDS SUPPLEMENTED BY THE CONTINUOUS RINGING OF THE GENERAL ALARM BELLS FOR A PERIOD OF NOT LESS THAN 10 SECONDS.

ABANDON SHIP (OR BOAT STATIONS)—MORE THAN SIX SHORT BLASTS AND ONE LONG BLAST OF THE WHISTLE SUPPLEMENTED BY THE SAME SIGNAL ON THE GENERAL ALARM BELLS.

THE OCCUPANTS OF THIS ROOM ARE ASSIGNED TO LIFEBOAT NO. —, ALL PASSENGERS ARE REQUIRED TO PUT ON LIFE PRESERVERS AND GO TO THEIR LIFEBOAT STATIONS WHENEVER GENERAL ALARM BELLS RING.

THE ROOM STEWARD WILL PROVIDE LIFE PRESERVERS FOR CHILDREN AT THE START OF THE VOYAGE.

(2) Life preservers: The location of life preservers together with instructions and pictures showing how they

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are worn shall be indicated in a framed notice.

(b) On each vessel when operating on the Great Lakes:

(1) There shall be posted, in addition to the notices required in paragraph (a) of this section, notices that contain information on the stowage location of exposure suits and instructions for their donning and use.

(2) The third paragraph of the notice set forth in paragraph (a)(1) of this section must read as follows:

THE OCCUPANTS OF THIS ROOM ARE ASSIGNED TO LIFEBOAT NO.— ALL PASSENGERS ARE REQUIRED TO PUT ON LIFE PRESERVERS OR EXPOSURE SUITS AND GO TO THEIR LIFEBOAT STATIONS WHENEVER THE GENERAL ALARM BELLS RING.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGFR 69-116, 35 FR 6861, Apr. 30, 1970; CGD 76-033a, 45 FR 24477, Apr. 10, 1980]

§ 78.47-50 Children's life preservers.

(a) The lockers or boxes in which children's life preservers are stowed and also the number contained therein shall be marked in at least two inch letters and figures:

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CHILDREN'S LIFE PRESERVERS

§ 78.47-51 Exposure suits.

Each container or other location for stowage of exposure suits must be plainly marked in letters and figures at least two inches high with the label "EXPOSURE SUITS", the number of suits, and their sizes.

[CGD 76-033a, 45 FR 24477, Apr. 10, 1980]

§ 78.47-53 Automatic ventilation dampers.

(a) The manual operating positions for automatic fire dampers in ventilation ducts passing through main vertical zone bulkheads shall be identified by red day light-reflecting letters at least ½ inch high "VENTILATION FIRE DAMPER." In addition, the open and closed positions shall be similarly marked.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by 67-87, 32 FR 19181, Dec. 20, 1967]

§ 78.47-55 Instructions for changing steering gear.

(a) Instructions in at least ¼ inch letters and figures shall be posted in the steering engine room, relating in order, the different steps to be taken in changing to the emergency steering gear. Each clutch, gear, wheel, lever, valve or switch which is used during the changeover shall be numbered or lettered on a metal plate or painted so that the markings can be recognized at a reasonable distance. The instructions shall indicate each clutch or pin to be "in" or "out" and each valve or switch which is to be "opened" or "closed" in shifting to any means of steering for which the vessel is equipped. Instructions shall be included to line up all steering wheels and rudder amidship before changing gears.

§ 78.47-57 Rudder orders.

(a) At all steering stations, there shall be installed a suitable notice on the wheel or device of in such other position as to be directly in the helmsman's line of vision, to indicate the direction in which the wheel or device must be turned for "right rudder" and for "left rudder."

§ 78.47-60 Lifeboats.

(a) The name of the vessel shall be plainly marked or painted on each side of the bow of each lifeboat in letters not less than 3 inches high. For vessels on an international voyage, the vessel's port of registry shall be added in similar type letters.

(b) The number of each lifeboat shall be plainly marked or painted on each side of the bow of each lifeboat in figures not less than 3 inches high. The lifeboats on each side of the vessel shall be numbered from forward aft, with the odd numbers on the starboard side. Where nested lifeboats are permitted, the upper lifeboat shall be numbered in the normal manner and the lower lifeboat shall have the same number followed by the letter "A".

(c) The cubical contents and number of persons allowed to be carried in

each lifeboat shall be plainly marked or painted on each side of the bow of each lifeboat in letters and numbers not less than 1½ inches high. In addition, the number of persons allowed shall be plainly marked or painted on top of at least 2 thwarts in letters and numbers not less than 3 inches high.

(d) All oars shall be conspicuously marked with the vessel's name.

(e) Where mechanical disengaging apparatus is used, the control effecting the release of the lifeboat shall be painted bright red and shall have thereon in raised letters either the words—"DANGER—LEVER DROPS BOAT", or the words—"DANGER—LEVER RELEASES HOOKS".

(f) The top of thwarts, side benches and footings of lifeboats shall be painted or otherwise colored international orange. The area in way of the red mechanical disengaging gear control lever, from the keel to the side bench, shall be painted or otherwise colored white, to provide a contrasting background for the lever. This band of white should be approximately 12 inches wide depending on the internal arrangements of the lifeboat.

§ 78.47-63 Liferrafts, lifefloats, and buoyant apparatus.

(a) Rigid type liferafts, lifefloats, and buoyant apparatus, together with their oars and paddles, shall be conspicuously marked with the vessel's name. For vessels on an international voyage, the vessel's port of registry also shall be similarly marked on lifefloats and buoyant apparatus.

(b) The number of persons allowed on each rigid type liferaft, lifefloat, and buoyant apparatus shall be conspicuously marked or painted thereon in letters and numbers at least 1½ inches high.

(c) There shall be stenciled in a conspicuous place in the immediate vicinity of each inflatable liferaft the following:

INFLATABLE LIFERAFT NO. ———

——— PERSONS CAPACITY

These markings shall not be placed on the inflatable liferaft containers.

NOTE: See § 75.10-5(b)(3) (ii) and (iii) and 160.051-8 of this chapter for required

markings on an inflatable liferaft and a liferaft's container.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 75-040, 40 FR 58454, Dec. 17, 1975]

§ 78.47-65 Life preservers, exposure suits, and ring life buoys.

Each life preserver, exposure suit, and ring life buoy must be marked with the vessel's name. For vessels on an international voyage, the vessel's port of registry must be added in similar type letters on all ring buoys.

[CGD 76-033a, 45 FR 24477, Apr. 10, 1980]

§ 78.47-67 Fire hose and axes.

(a) All fire hose and axes shall be marked with the vessel's name.

§ 78.47-70 Portable magazine chests.

(a) Portable magazine chest shall be marked in letters of at least 3 inches high "PORTABLE MAGAZINE CHEST — FLAMMABLE — KEEP LIGHTS AND FIRE AWAY".

§ 78.47-72 Emergency position indicating radiobeacon (EPIRB).

The EPIRB required in § 75.60-1 of this subchapter must be marked with the vessel's name.

[CGD 73-24R, 39 FR 10139, Mar. 18, 1974]

§ 78.47-75 Ventilation alarm failure.

(a) The alarm required by § 72.15-15 (c)(4) of this subchapter, which indicates the loss of required ventilation in spaces specially suitable for vehicles, shall be marked with a conspicuous sign in at least ¼-inch letters "VENTILATION FAILURE IN VEHICULAR SPACE."

[CGFR 66-33, 31 FR 15284, Dec. 6, 1966]

§ 78.47-90 Vessels contracted for prior to November 19, 1952.

(a) Vessels contracted for prior to November 19, 1952, shall meet the requirements of this paragraph.

(1) The requirements of §§ 78.47-5 through 78.47-75 shall be met with the exception that existing signs and markings containing the same general intent, but not necessarily identical wording or exact letter type, size, or color, may be retained so long as they

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are in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGFR 66-33, 31 FR 15284, Dec. 6, 1966]

Subpart 78.49—Posting Placards of Instructions for Launching and Inflating Inflatable Liferafts

§ 78.49-1 When required.

(a) Every vessel equipped with inflatable liferafts shall have posted in conspicuous places which are regularly accessible to the crew and/or passengers, approved placards containing instructions for launching and inflating inflatable liferafts for the information of persons on board. The number and location of such placards shall be as determined necessary by the Officer in Charge, Marine Inspection.

(b) Under the requirements contained in § 160.051-6(c)(1) of subpart 160.051 in subchapter Q (Specifications) of this chapter, the manufacturer of approved inflatable liferafts is required to provide approved placards containing such instructions with each liferaft.

Subpart 78.50—Markings on Vessels

§ 78.50-1 Application.

(a) The provisions of this subpart shall apply to all vessels except as specifically noted in this subpart.

§ 78.50-5 Hull markings.

Vessels shall be marked as required by parts 67 and 69 of this chapter.

[CGD 72-104R, 37 FR 14233, July 18, 1972]

§ 78.50-10 Draft marks.

(a) All vessels shall have the draft of the vessel plainly and legibly marked upon the stem and upon the sternpost or rudderpost or at any place at the stern of the vessel as may be necessary for easy observance. The draft shall be taken from the bottom of the keel at the marks to the surface of the water, the bottom of the mark to indicate the draft in feet.

(b) In cases where the keel does not extend forward or aft to the location

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of the draft marks, due to rake or cut-away skeg, the datum line which the draft shall be taken from shall be obtained by projecting the line of the bottom of keel forward or aft, as the case may be, to the location of the draft marks.

(c) In cases where a vessel has a skeg or other appendage extending locally below the line of the keel, the draft at the end of the vessel shall be taken to such appendage shall be measured to a line tangent to the lowest point of such appendage and parallel to the line of the bottom of the keel.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 72-104R, 37 FR 14233, July 18, 1972]

§ 78.50-15 Load line marks.

(a) Vessels assigned a load line shall have the deck line and the load line marks permanently scribed on the hull or bossed as required by subchapter Q (Load Lines) of this chapter.

Subpart 78.53—Placard of Life-Saving Signals and Breeches Buoy Instructions

§ 78.53-1 Application.

(a) The provisions of this subpart shall apply to all vessels on international voyage, and to all other vessels of 150 gross tons or over in coastwise or Great Lakes service.

§ 78.53-5 Availability.

(a) On all vessels to which this part applies there shall be available to the deck officer a placard (Form CG-1) containing instructions for the use of the breeches buoys and the life-saving signals as set forth in Regulation V, of the International Convention for Safety of Life at Sea. These signals shall be used by the vessel or persons in distress when communicating with lifesaving stations or maritime rescue units.

(b) [Reserved]

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 87-031a, 53 FR 14233, July 22, 1988]

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Subpart 78.55—Carrying of Excess Steam

§ 78.55-1 Master and chief engineer responsible.

(a) It shall be the duty of the master and the engineer in charge of the boilers of any vessel to require that a steam pressure is not carried in excess of that allowed by the certificate of inspection, and to require that the safety valves, once set and sealed by the inspector, are in no way tampered with or made inoperative except as provided in § 78.33-20.

Subpart 78.57—Routing Instructions

§ 78.57-1 All personnel must comply.

(a) Due to existing mine field dangers, all licensed masters, officers, and certificated seamen on United States vessels shall comply strictly with the routing instructions issued by competent naval authority. Failure to comply with such routing instructions shall be deemed misconduct within the meaning of R.S. 4450, as amended (46 U.S.C. 239). Nothing herein shall be construed as relieving the master of the responsibility for the safety of his vessel.

Subpart 78.60—Compliance With Provisions of Certificate of Inspection

§ 78.60-1 Master or person in charge responsible.

(a) It shall be the duty of the master or other person in charge of the vessel to see that all of the provisions of the certificate of inspection are strictly adhered to. Nothing in this subpart shall be construed as limiting the master or other person in charge of the vessel, at his own responsibility, from diverting from the route prescribed in the certificate of inspection or taking such other steps as he deems necessary and prudent to assist vessels in distress or for other similar emergencies.

Subpart 78.65—Exhibition of License

§ 78.65-1 Licensed officers.

(a) All licensed officers on a vessel shall have their licenses conspicuously

displayed as required by R.S. 4446, as amended (46 U.S.C. 232).

Subpart 78.70—De-Energizing of Cargo Hold Lighting Circuits When Grain or Other Combustible Bulk Cargo Is Carried

§ 78.70-1 Master's responsibility.

(a) Before loading bulk grain, or similar combustible bulk cargo, the master shall have the lighting circuits to cargo compartments in which the bulk cargo is to be loaded de-energized at the distribution panel or panel board. He shall thereafter have periodic inspections made of the panel or panel board as frequently as necessary to ascertain that the affected circuits remain de-energized while this bulk cargo remains within the vessel.

§ 78.70-5 Warning notice posted.

(a) As a precaution against any subsequent unintentional re-energizing of the circuits specified above, an appropriate notice shall be posted at the location where the control is effected warning against re-energizing these circuits. Such notice shall remain posted while this bulk cargo remains within the vessel.

Subpart 78.75—Motion Picture Film and Equipment

§ 78.75-1 Type required.

(a) Only acetate or slow-burning film may be used. Nitrocellulose film is specifically prohibited.

(b) Projectors must meet the requirements in § 111.89-1 of this title.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 72-104R, 37 FR 14233, July 18, 1972; CGD 72-104CR, 37 FR 18537, Sept. 13, 1972]

Subpart 78.80—Power-Operated Industrial Trucks

§ 78.80-1 Application.

(a) *Power-operated industrial trucks.* This subpart applies to—

(1) Power-operated industrial trucks carried on board vessels as part of the vessel's equipment for handling materials of any kind; and

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(2) Power-operated industrial trucks placed on board a vessel for handling materials of any kind when the vessel is within the navigable waters of the United States, its territories, or its possessions.

(b) *Vessels.* (1) Vessels shall be in compliance with the applicable provisions of this subpart during those periods of time when power-operated industrial trucks are on board as part of the vessel's equipment or when such trucks are placed on board for handling materials of any kind.

NOTE: The regulations affecting the use of power-operated industrial trucks on foreign vessels are in 49 CFR 176.78, or in the case of foreign tank vessels in subpart 35.70 of subchapter D (Tank Vessels) of this chapter.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 72-104R, 37 FR 14233, July 18, 1972; CGD 86-033, 53 FR 36025, Sept. 16, 1988]

§ 78.80-3 Alternates.

(a) In cases of undue hardship resulting from unavoidable delays in bringing existing power-operated industrial trucks into compliance with the applicable provisions of this subpart, the Commandant may permit the use of alternate equipment, apparatus, or arrangement for such period of time, and to such extent, and upon such conditions as will assure, to the Commandant's satisfaction, a degree of safety consistent with the minimum standards as set forth in this subpart.

(b) The methods and procedures adopted in connection with the modification of existing equipment to meet required laboratory designations will be taken into consideration in granting permission to use alternate arrangements for a limited period of time.

§ 78.80-5 Definitions of terms used in subpart.

(a) Power-operated industrial trucks are considered to be tractors, lift trucks, and other specialized industrial trucks used for material handling on board a vessel.

(b) For the purpose of the regulations in this subpart, the words "flammable" and "inflammable" are interchangeable or synonymous terms.

§ 78.80-7 Approved power-operated industrial trucks.

(a) Where approved power-operated industrial trucks are required by the regulations in this subchapter such approved trucks shall have a specific designation of a recognized testing laboratory. The following laboratories are recognized for the specific type designations listed:

(1) Underwriters' Laboratories, Inc. (Mailing address, P.O. Box 247, Northbrook, Ill., 60062) for trucks having recognized testing laboratory type designations E, EE, EX, G, GS, LP, LPS, D and DS.

(2) Factory Mutual Laboratories, Engineering Division, 1115 Boston-Providence Turnpike, Norwood, Mass., 02062, for trucks having recognized testing laboratory type designations E, EE, EX, G, GS, LP, LPS, D and DS.

(b) Description of recognized testing laboratory type designations are as follows:

(1) The "E" designated units are electrically powered units that have minimum acceptable safeguards against inherent fire hazards.

(2) The "EE" designated units are electrically powered units that have in addition to all of the requirements for the "E" units, the electric motors and all other electrical equipment completely enclosed. In certain locations the "EE" unit may be used where the use of an "E" unit may not be considered safe.

(3) The "EX" designated units are electrically powered units that differ from the "E" and "EE" units in that the electrical fittings and equipment are so designed, constructed and assembled that the units may be used in certain atmospheres containing flammable vapors or dusts.

(4) The "G" designated units are gasoline powered units having minimum acceptable safeguards against inherent fire hazards.

(5) The "GS" designated units are gasoline powered units that are provided with additional safeguards to the exhaust, fuel and electrical systems. They may be used in some locations where the use of a "G" unit may not be considered safe.

(6) The "LP" designated units are similar to the "G" units except that they are liquefied petroleum gas engine powered instead of gasoline powered.

(7) The "LPS" designated units are units similar to the "GS" units except that liquefied petroleum gas is used for fuel instead of gasoline.

(8) The "D" designated units are units similar to the "G" units except that they are diesel engine powered instead of gasoline engine powered.

(9) The "DS" designated units are diesel powered units that are provided with additional safeguards to the exhaust, fuel and electrical systems. They may be used in some locations where a "D" unit may not be considered safe.

(c) In addition to the construction and design safety features required in order to obtain a recognized laboratory type designation, approved power-operated industrial trucks shall have at least the following minimum safety features where applicable:

(1) Power-operated industrial trucks shall be equipped with a warning horn, whistle, or gong, or other device that can be heard clearly above the normal shipboard noises.

(2) Whenever power-operated industrial truck operation exposes the operator to danger from falling objects, the truck shall be equipped with a driver's overhead guard. Where overall height of the truck with forks in the lowered position is limited by head room conditions the overhead guard may be omitted.

NOTE: This overhead guard is only intended to offer protection from the impact of small packages, boxes, bagged material, etc., representative of the job application. It is impractical to build a guard of sufficient strength to withstand the impact of a capacity load since such a guard would constitute a safety hazard because its structure would be so large that it might interfere with good visibility and would weigh so much that it might make the truck topheavy and unstable.

(3) Power-operated fork lift trucks which handle small objects or unstable loads shall be equipped with a vertical load back rest or rack which shall have height, width and strength sufficient to prevent the load, or part of it, from falling toward the mast when the

mast is in a position of maximum backward tilt.

(4) The forks on power-operated fork lift trucks shall be secured to the carriage so that unintentional lifting of the toe shall not occur on such application where this lifting may create a hazard. The factor of safety of forks shall be at least 3 to 1, based on the elastic limit of the material.

(5) Fork extensions or other attachments shall be suitably secured to prevent unintentional lifting or displacement on primary forks.

(6) All exposed wheels shall be provided with guards to prevent the wheels from throwing particles at the operator.

(7) Unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin, the steering knob, if used, shall be of a mushroom type to engage the palm of the operator's hand, or shall be arranged in some other manner to prevent injury. The knob shall be mounted within the perimeter of the wheel.

(8) All steering controls shall be confined within the clearances of the truck, or so guarded that movement of the controls shall not result in injury to the operator when passing obstructions, stanchions, etc.

§ 78.80-10 Use of power-operated industrial truck in various locations.

(a) *Spaces containing explosives.* (1) Except as otherwise provided in this paragraph, power-operated industrial trucks shall not be used in a space in which Class A, Class B, or Class C explosives are stowed.

NOTE: Class A, Class B, and Class C explosives are defined in 49 CFR 173.53, 173.88, and 173.100, respectively.

(2) The Commandant may grant authority for the use of approved power-operated industrial trucks with a recognized testing laboratory designation of EX in spaces in which Class A, Class B or Class C explosives are stowed when it can be shown that such trucks can be used with safety.

(3) In a space in which packaged small arms ammunition without explosive bullets is stowed, only approved power-operated industrial trucks with

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a recognized testing laboratory designation of EX, EE, LPS, GS and DS may be used for handling cargo including the handling of such packaged small arms ammunition.

(b) *Spaces containing flammable liquids.* (1) In a space in which packaged flammable liquids are stowed, only approved power-operated industrial trucks with a recognized testing laboratory designation of EX, EE, GS, LPS, and DS may be used for handling cargo including the handling of such packaged flammable liquids.

(c) *Spaces containing flammable solids or oxidizing materials.* (1) In a space in which packaged flammable solids or oxidizing materials are stowed, only approved power-operated industrial trucks with a recognized testing laboratory designation of EX, EE, GS, LPS, and DS may be used for handling cargo including the handling of such packaged flammable solids or oxidizing materials.

(2) When flammable solids or oxidizing materials are contained in closed cargo vans or closed containers and no other dangerous cargo is stowed in the hold or compartment, any standard commercial type power-operated industrial truck in safe operating condition and having the minimum safety features of § 78.80-7(c) may be used in the spaces.

(3) When oxidizing materials in bulk are stowed in the holds or compartment, any approved commercial type power-operated industrial truck may be used in the spaces.

(d) *Spaces containing hazardous articles.* (1) In a space in which packaged or baled hazardous articles of a fibrous nature or bulk sulfur are stowed, only approved power-operated industrial trucks with a recognized testing laboratory designation of EX, EE, GS, LPS and DS may be used for handling cargo, including the handling of such packaged or baled hazardous articles of a fibrous nature or bulk sulfur.

(2) When hazardous articles of a fibrous nature are contained in closed cargo vans or closed portable containers and no other dangerous cargo is stowed in the hold or compartment, any standard commercial type power-operated industrial truck in safe operating condition and having the mini-

mum safety features of § 78.80-7(c) may be used in the spaces.

(e) *Spaces containing other hazardous materials.* In a space in which hazardous materials subject to 49 CFR parts 171-179, except those provided for in paragraphs (a), (b), (c) or (d) of this section, are stowed, any approved power-operated industrial truck may be used to handle cargo including the handling of such hazardous materials.

(f) *Other spaces.* (1) Any standard commercial type power-operated industrial truck in safe operating condition and having the minimum safety features of § 78.80-7(c) may be used in spaces and for handling cargo in spaces not otherwise restricted by regulation in this subpart.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 72-104R, 37 FR 14233, July 18, 1972; CGD 86-033, 53 FR 36025, Sept. 16, 1988]

§ 78.80-15 Special operating conditions.

(a) Notification shall be given to the master or senior deck officer on board before placing power-operated industrial trucks in use aboard the vessel.

(b) When power-operated industrial trucks are in use on board vessels subject to the regulations in this subchapter, they shall be in a safe operating condition.

(c) *Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks shall have adequate ventilation.* The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a timeweighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary, portable blowers of adequate size and location shall be utilized.

(d) The parts and/or equipment of any power-operated industrial truck

requiring replacement shall be replaced only by parts and/or equipment equivalent in safety when installed with those used in the original design.

(e) Any truck that emits sparks or flames from the exhaust system shall immediately be removed from service, and not again returned to service until the cause for the emission of such sparks or flames has been eliminated.

(f) When the temperature of any part of the truck is found to be in excess of a safe operating temperature, the truck shall be removed from service until such overheating has been corrected.

(g) Operation of trucks shall be halted immediately and the engines or motors secured, whenever an emergency condition arises aboard the vessel.

(h) Operation of trucks shall be halted immediately and the engines or motors secured in the event of breakage or leakage of containers used for the carriage of flammable liquids, flammable solids or oxidizing materials.

(i) The rated capacity of a truck shall at all times be posted on the truck in a conspicuous place and such capacity shall not be exceeded.

(j) At least one approved 2-pound dry chemical hand portable fire extinguisher, or its approved equivalent, shall be affixed to the truck in a readily accessible position or kept in close proximity available for immediate use.

(k) Vessel's fire-fighting equipment, both fixed (where installed) and portable, in vicinity of space being worked shall be kept ready for immediate use.

[CGFR 65-50, 30 FR 18955, Dec. 30, 1965, as amended by CGFR 69-72, 34 FR 17483, Oct. 29, 1969]

§ 78.80-20 Refueling.

(a) *When permitted.* Power-operated industrial trucks are not permitted to be refueled in the hold of a vessel or on the weather deck except under the following conditions:

(1) Trucks using gasoline as fuel may be refueled in the hold or on the weather deck of a vessel only when such refueling is done with an acceptable portable non-spilling fuel handling system of not over 5 gallons capacity. Transfer of gasoline to these portable

non-spilling fuel handling devices is not permitted on board the vessel.

(2) Power-operated industrial trucks using liquefied petroleum gas as fuel may be refueled in the hold or on the weather deck of a vessel only when fitted with removable tanks and provided the hand-operated shut-off valve of the depleted tank is closed and the engine is run until it stalls from lack of fuel before the quick disconnect fitting is opened. In addition, the quick-disconnect fitting shall be attached to the fuel tank before the hand-operated shut-off valve is reopened.

(3) Power-operated industrial trucks using diesel oil as fuel may be refueled on the weather deck or in the hold of a vessel by means of portable containers of not over 5-gallon capacity. These trucks may also be refueled on the weather deck of a vessel or portable containers refilled from a larger container provided a suitable pump is used for the transfer operation and a drip pan of adequate size is supplied.

(b) *General requirements.* The following conditions must be met when refueling power-operated industrial trucks in the hold of a vessel or on the weather deck under the circumstances listed in paragraph (a) of this section:

(1) Refueling shall be under the direct supervision of an experienced and responsible person specifically designated for such job by the person in charge of the loading or unloading of the vessel.

(2) No refueling shall be undertaken with less than 2 persons specifically assigned and present for the complete operation, at least one of whom shall be experienced in using the portable fire extinguishers required in the fueling area.

(3) At least one approved 4-pound dry chemical hand portable fire extinguisher, or its approved equivalent shall be provided at the scene of the fueling area. This is in addition to portable extinguisher affixed to the truck in accordance with § 78.80-15(j).

(4) The location for refueling trucks shall be designated by the master or senior deck officer on board the vessel. "No Smoking" signs shall be posted in the area and smoking shall be prohibited.

(5) The location designated for refueling shall be adequately ventilated so as to insure against accumulation of a hazardous concentration of vapors. The ventilation requirements of § 78.80-15(c) when trucks are operating shall also apply when trucks are being refueled.

(6) Truck engines of all trucks in the same hold shall be stopped before any truck in that hold is refueled and before any fuel handling devices or unmounted liquefied petroleum gas cylinders are placed in the hold.

(7) All fuel handling devices and unmounted liquefied petroleum gas containers shall be removed from the hold before any truck engine is started and the trucks again placed in operation.

§ 78.80-25 Charging or replacing batteries.

(a) Batteries for electrically-powered industrial trucks and for the ignition systems of internal combustion engine-powered industrial trucks may be changed in the hold of a vessel provided the following conditions are met:

(1) Suitable handling equipment shall be employed.

(2) Adequate precautions shall be taken to avoid damage to the battery, short circuiting of the battery and spillage of the electrolyte.

(b) Batteries of electrically-powered industrial trucks may be recharged in a hold of a vessel provided the following conditions are met:

(1) The batteries shall be housed in a suitable, ventilated, portable metal container with a suitable outlet at the top for connection of a portable air hose, or shall be placed directly beneath a suitable metal hood with a suitable outlet at the top for connection of a portable air hose. The air hose shall be permanently connected to an exhaust duct leading to the open deck and terminate in a gooseneck or other suitable weather head. If natural ventilation is not practicable or adequate, mechanical means of exhaust shall be employed in conjunction with the duct. The air outlet on the battery container shall be equipped with an interlock switch so arranged that the charging of the battery cannot take place unless the air hose is properly connected to the box.

(2) If mechanical ventilation is used, an additional interlock shall be provided between the fan and the charging circuit so that the fan must be in operation in order to complete the charging circuit for operation. It is preferable that this interlock switch be of a centrifugal type driven by the fan shaft.

(3) The hold shall not contain any cargo coming under the regulations in 49 CFR Parts 171-179.

(4) The charging facilities may be part of the truck equipment or may be separate from the truck and located inside or outside the cargo hold. The supply or charging circuit (whichever method is used) shall be connected to the truck by a portable plug connection of the break-away type. This portable plug shall be so engaged with the truck battery charging outlet that any movement of the truck away from the charging station will break the connection between the plug and receptacle without exposing any live parts to contact with a conducting surface or object, and without the plug falling to the deck where it may become subject to injury.

(c) All unmounted batteries shall be suitably protected or removed from an area in the hold of the vessel before trucks are operated in that area.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 86-033, 53 FR 36025, Sept. 16, 1988]

§ 78.80-30 Stowage of power-operated industrial trucks aboard a vessel.

(a) Power-operated industrial trucks may be stowed in any location aboard a vessel provided the following conditions are met:

(1) Gasoline powered trucks shall have all the fuel expended from the system.

(2) Liquefied petroleum gas powered trucks shall have the fuel tanks removed and all the fuel expended from the system.

(b) Power-operated industrial trucks not meeting the conditions set forth in paragraph (a) of this section shall be stowed on the open deck except for intervals such as lunch hours, between work shifts, interdock and intraport movements. If stowed in a fixed metal

enclosure located on or above the weather deck, such enclosure shall have access from the weather deck only and shall have adequate ventilation, so arranged as to remove vapors from both the upper and lower portions of the space.

§ 78.80-35 Stowage of fuel handling devices aboard a vessel.

(a) Flammable liquids and gases to be used as fuels for power-operated industrial trucks shall be marked, labeled and stowed as follows:

(1) They shall be stowed in DOT specification containers, A.S.M.E. containers or portable safety containers having the approval of a recognized testing laboratory, which containers are authorized for the contents.

(2) Containers shall be marked with the name of the contents and shall be labeled in accordance with DOT requirements as follows:

(i) Flammable liquids—"Red Label"; or,

(ii) Flammable gases—"Red Gas Label".

(3) Containers shall be stowed on or above the weather deck in locations designated by the master. DOT specification containers, A.S.M.E. containers or portable safety containers having the approval of a recognized testing laboratory may be stowed below the weather deck in a paint or lamp locker provided such containers do not exceed 5 gallons capacity each.

(b) Diesel fuel shall be stowed in locations designated by the master.

[CGFR 65-50, 30 FR 16955, Dec. 30, 1965, as amended by CGD 86-033, 53 FR 36025, Sept. 16, 1988]

Subpart 78.83—Operation of Vehicles in Enclosed Locations

§ 78.83-1 Special operating conditions.

(a) The operation of self-propelled vehicles in enclosed locations (other than power-operated industrial trucks when subject to subpart 78.80 of this part) shall be permitted only when the other conditions in this section have been met.

(b) Spaces exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial

trucks shall have adequate ventilation. The senior deck officer shall see that tests of the carbon monoxide content of the atmosphere are made as frequently as conditions require to insure that dangerous concentrations do not develop. Such tests shall be made in the area in which persons are working, by persons acquainted with the test equipment and procedure. The carbon monoxide concentration in the holds and intermediate decks where persons are working shall be maintained at not more than 50 parts per million (0.005%) as a time-weighted average, and persons shall be removed from the area if the concentration exceeds 75 parts per million (0.0075%). When necessary, portable blowers of adequate size and location shall be utilized.

[CGFR 66-33, 31 FR 15284, Dec. 6, 1966, as amended by CGFR 69-72, 34 FR 17484, Oct. 29, 1969]

Subpart 78.85—Prevention of Oil Pollution

§ 78.85-1 General requirements.

A passenger vessel must be operated to meet the requirements in—

(a) Section 311 of the Federal Water Pollution Control Act, as amended (86 Stat. 816; 33 U.S.C. 1321);

(b) Section 12 of the Oil Pollution Act, 1961, as amended (75 Stat. 404; 33 U.S.C. 1011); and

(c) 33 CFR parts 151, 155, and 156.

[CGD 73-58R, 39 FR 18767, May 30, 1974]

Subpart 78.87—Exposure Suits

SOURCE: CGD 76-033a, 45 FR 24477, Apr. 10, 1980, unless otherwise noted.

§ 78.87-1 Applicability.

This subpart applies to each vessel when operating on the Great Lakes.

§ 78.87-5 Stowage of exposure suits.

The master of a vessel shall ensure that—

(a) Each exposure suit required by § 75.41-5(a) for a crew member or berthed passenger is stowed in a readily accessible location in or near his or her berthing area;

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(b) Each exposure suit required by § 75.41-5(b) for a watch or work station is stowed in a readily accessible location in or near the station;

(c) Each other exposure suit required by § 75.41-5 is stowed in a conspicuous, readily accessible location that is on deck or otherwise open to passengers; and

(d) Each child size exposure suit is stowed in a manner that prevents mistaking it for an adult size.

§ 78.87-10 Additional child size exposure suits.

If during the Great Lakes winter season (September 16 through May 14) the number of children on board exceeds the number of child size exposure suits required by § 75.41-5(c), the master of the vessel shall ensure that enough additional exposure suits of a child size are on board the vessel to provide one for each child.

Subpart 78.90—Pilot Boarding Operations

§ 78.90-1 Pilot boarding operation.

(a) The master shall ensure that pilot boarding equipment is maintained as follows:

(1) The equipment must be kept clean and in good working order.

(2) Each damaged step or spreader step on a pilot ladder must be replaced in kind with an approved replacement step or spreader step, prior to further use of the ladder. The replacement step or spreader step must be secured by the method used in the original construction of the ladder, and in accordance with manufacturer instructions.

(b) The master shall ensure compliance with the following during pilot boarding operations:

(1) Only approved pilot boarding equipment may be used.

(2) The pilot boarding equipment must rest firmly against the hull of the vessel and be clear of overboard discharges.

(3) Two man ropes, a safety line and an approved lifebuoy with an approved water light must be at the point of access and be immediately available for use during boarding operations.

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(4) Rigging of the equipment and embarkation/debarkation of a pilot must be supervised in person by a deck officer.

(5) Both the equipment over the side and the point of access must be adequately lit during night operations.

(6) If a pilot hoist is used, a pilot ladder must be kept on deck adjacent to the hoist and available for immediate use.

[CGD 79-032, 49 FR 25455, June 21, 1984]

PART 79—SPECIAL CONSTRUCTION, ARRANGEMENT, AND OTHER PROVISIONS FOR NUCLEAR VESSELS

Subpart 79.01—Application

Sec.

79.01-1 General.

Subpart 79.05—Design and Construction

79.05-1 Special requirements.

79.05-5 Subdivision and stability.

79.05-10 Location of nuclear system components.

Subpart 79.10—Inspection and Certification

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Subpart 79.15—Other Special Provisions

79.15-1 Radiation.

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79.15-5 Nuclear Regulatory Commission safety requirements.

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Subpart 79.20—Operations

79.20-1 Operating Manual.

79.20-5 Special operating procedures.

AUTHORITY: 46 U.S.C. 3308; 49 U.S.C. App. 1804; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; 49 CFR 1.46.

SOURCE: CGFR 68-82, 33 FR 18899, Dec. 18, 1968, unless otherwise noted.

Subpart 79.01—Application

§ 79.01-1 General.

(a) The provisions of this part shall apply to all installations, systems, and components thereof, utilizing nuclear

energy for propulsion or for any other purpose. They shall include vessels handling substantial quantities of radioactive materials other than cargo.

Subpart 79.05—Design and Construction

§ 79.05-1 Special requirements.

(a) The features described in this section shall be provided in nuclear vessels regardless of length or gross tonnage.

(b) [Reserved]

(c) Bilge system arrangements, as required for self-propelled oceangoing passenger vessels over 300 feet, shall be provided. For applicable requirements see §§ 56.50-50 and 56.50-55 of subchapter F (Marine Engineering) of this chapter.

(d) In addition to the other requirements of subpart 72.05 of this subchapter, the boundary bulkheads and decks separating the reactor compartments, other compartments containing vital primary system equipment, nuclear chemistry laboratories, and reactor control spaces from accommodations, galley, main pantries, and machinery spaces requiring fixed type extinguishing systems shall be of A-60 construction. For definition of Class A-60 construction, see subpart 72.05 of this subchapter.

[CGFR 68-82, 33 FR 18899, Dec. 18, 1968, as amended by CGD 74-125A, 47 FR 15231, Apr. 8, 1982]

§ 79.05-5 Subdivision and stability.

Each vessel must meet the stability requirements in subpart D of part 174 of this chapter.

[CGD 79-023, 48 FR 51008, Nov. 4, 1983]

§ 79.05-10 Location of nuclear system components.

(a) The location of the nuclear system components in the vessel and the manner in which they are supported shall be approved by the Commandant. In determining the location and the necessary structural support and protection required, the effects of grounding, collision, or other mishap resulting in holing of the vessel shall be considered.

(b) Reactor installations, including all potentially vulnerable primary system components, shall be placed as far inboard from the shell as practicable. Generally, the installation shall be situated inboard of a vertical surface perpendicular to the waterplane. The vertical surface shall be located at a minimum distance (measured at right angles to the centerline at the deepest loadline) inboard of the shell equal to one-fifth of the extreme breadth of the vessel. If the installation extends outboard of this vertical surface, special consideration shall be given to collision protection.

(c) Reactor installations shall be located a reasonable height above the ship's bottom, but in no case shall this height be less than the required double bottom height. Waste storage tanks and engineered safeguard systems may be permitted in the double bottom space if specifically approved by the Commandant. Consideration shall be given to collision-analysis statistics with regard to the longitudinal (fore and aft) location of the reactor installation.

Subpart 79.10—Inspection and Certification

§ 79.10-1 Annual inspection and certification required.

(a) Every nuclear vessel subject to the regulations in this subchapter shall be inspected by the U.S. Coast Guard at least annually to ascertain that the hull, nuclear systems, machinery, equipment, appliances, etc., of the vessel comply with the applicable regulations in this chapter.

(b) Every nuclear vessel found to be in compliance with applicable requirements in this subchapter will be issued a certificate of inspection in accordance with part 71 of this subchapter.

§ 79.10-5 Additional requirements.

(a) In addition to the requirements for inspection, test, overhaul and repair specified in this subchapter, nuclear vessels may be subject to such additional requirements as may be prescribed by the Commandant for inspection, test, overhaul and repair. For applicable requirements see subpart

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61.25 of subchapter F (Marine Engineering) of this chapter.

(b) A prerequisite for annual recertification of the vessel will be a valid Nuclear Regulatory Commission's facility operating license, or, if nonlicensed, a certificate from the Nuclear Regulatory Commission stating that the nuclear installation complies with the requirements of the Commission.

§ 79.10-15 International Convention certification.

(a) For applicable requirements governing Safety of Life at Sea Convention certificates see §§ 71.75-5, 71.75-10(c), and 71.75-20(c) of this subchapter.

Subpart 79.15—Other Special Provisions

§ 79.15-1 Radiation.

(a) The vessel shall be so designed, constructed and operated that no unreasonable hazard of radiation at sea or in port for crew, food, water supply, passengers, public, or waterways exists.

(b) The Nuclear Regulatory Commission's Standards for Protection Against Radiation, set forth in 10 CFR part 20, will be the radiation protection standards followed by the U.S. Coast Guard, except as otherwise provided for by law.

§ 79.15-3 Means for preventing uncontrolled release of radiation.

(a) The vessel's nuclear systems, including all components thereof, shall be provided with means for preventing the uncontrolled release of hazardous amounts of radioactive material to normally accessible spaces on the ship or to the ship's environment in the event of accident or malfunction of any such system.

§ 79.15-5 Nuclear Regulatory Commission safety requirements.

(a) Before a Coast Guard certificate of inspection for a nuclear vessel will be issued, it must be shown that the nuclear system meets the safety requirements of the Nuclear Regulatory Commission. After facility licensing, possession of a valid NRC license will

attest to this fact. Prior to this licensing, a letter from the Commission to the Coast Guard with assurance that the system does meet the safety requirements of the Nuclear Regulatory Commission is required.

§ 79.15-10 Safety Assessment.

(a) A Safety Assessment shall be prepared to permit evaluation of the nuclear power plant and safety of the ship, and to insure that there are no unreasonable radiation or other hazards, at sea or in port, to the crew, passengers or public, or to the waterways or food or water resources.

(b) The Safety Assessment shall be submitted to the Commandant for approval and shall always be kept up to date.

(c) The Safety Assessment will be used as a basis for establishing orderly negotiations between the United States and governments of countries which a nuclear vessel intends to visit to permit entry of nuclear ships into ports of different countries.

Subpart 79.20—Operations

§ 79.20-1 Operating Manual.

(a) A fully detailed Operating Manual shall be prepared for the information and guidance of the operating personnel in their duties on all matters relating to the operation of the nuclear powerplant and having an important bearing on safety.

(b) The Operating Manual shall be submitted to the Commandant for approval and shall always be kept up to date.

(c) A copy of the Operating Manual shall be kept on board the vessel at all times.

§ 79.20-5 Special operating procedures.

(a) In addition to the requirements specified in this chapter, all nuclear vessels may be subject to additional requirements governing fuelling, startup, and operation.

PART 80—DISCLOSURE OF SAFETY STANDARDS AND COUNTRY OF REGISTRY

Sec.

- 80.01 Purpose.
- 80.10 Applicability.
- 80.15 Ocean voyage.
- 80.20 Exception to requirements.
- 80.25 Notification of safety standards.
- 80.30 Promotional literature or advertising.
- 80.40 Civil penalty.

AUTHORITY: 46 U.S.C. 3306; 49 CFR 1.46.

SOURCE: CGD 72-187R, 38 FR 9081, Apr. 10, 1973, unless otherwise noted.

§ 80.01 Purpose.

The purpose of the regulations in this part is to implement subsection (b) of R.S. 4400, as amended (46 U.S.C. 362 (b)).

§ 80.10 Applicability.

Except as exempted in § 80.20, this part applies to—

(a) Owners, operators, agents, or any persons selling passage on a foreign or domestic vessel of one hundred gross tons or over having berth or stateroom accommodations for fifty or more passengers and embarking passengers at a United States port for a coastwise or an international voyage; and (b) owners, operators, agents, and other persons involved in the publishing and distribution of promotional material in or over any medium of communication within the United States offering passage or soliciting passengers for an ocean voyage anywhere in the world, by a vessel of one hundred gross tons or over having berth or stateroom accommodations for fifty or more passengers, regardless of whether passengers are embarked at United States ports for said voyage.

[CGD 79-180, 48 FR 7456, Feb. 22, 1983]

§ 80.15 Ocean voyage.

An ocean voyage for the purposes of this part means:

A voyage on any body of water seaward of the low water mark such as an ocean or arm thereof, other major bodies of water such as seas, gulfs, and straits, except voyages exclusively within harbors and small coastal indentations.

[CGD 79-180, 48 FR 7456, Feb. 22, 1983]

§ 80.20 Exception to requirements.

(a) This part does not apply to vessels that comply with the safety standards set forth in the International Convention for Safety of Life at Sea, 1974.

(b) If the exception in paragraph (a) of this section applies, the country of registry must appear in printed advertising or promotional literature as described in § 80.30(a), in a type no smaller than six points, American point system.

[CGD 72-187R, 38 FR 9081, Apr. 10, 1973, as amended by CGD 79-180, 48 FR 7456, Feb. 22, 1983; CGD 90-008, 55 FR 30661, July 26, 1990]

§ 80.25 Notification of safety standards.

(a) Each owner, operator, agent, or other person, selling passage for a coastwise or an international voyage embarking passengers at a United States port shall give to a prospective passenger, in writing, at the time of or before passage is booked, separately from any promotional literature or advertising used, a document containing the following information for each vessel concerned—

- (1) The name of the vessel;
- (2) The country of registry;
- (3) One of the following statements as appropriate:

(i) This vessel complies with international safety standards, except the 1966 fire safety standards.

(ii) This vessel complies with international safety standards developed prior to 1960. There is (or, is not) an automatic sprinkler system fitted in the passenger living and public spaces. The hull, decks, deckhouses, structural bulkheads, and internal partitions are (or, are not) composed of combustible materials.

(iii) This vessel does not comply with any international safety standard. There is (or, is not) an automatic sprinkler system fitted in the passenger living and public spaces. The hull, decks, deckhouses, structural bulkheads, and internal partitions are (or, are not) composed of combustible materials.

(b) The information required in paragraph (a) of this section must be

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printed in a type no smaller than six points, American point system.

(c) The information required in paragraph (a) of this section must be headed—

- (1) "SAFETY INFORMATION";
- (2) With each letter in the heading capitalized; and
- (3) In boldfaced type of a size equal to the size of the text required in paragraph (a) of this section.

[CGD 72-187R, 38 FR 9081, Apr. 10, 1973, as amended by CGD 79-180, 48 FR 7456, Feb. 22, 1983]

§ 80.30 Promotional literature or advertising.

(a) Except as provided in paragraph (f) of this section, all promotional literature or advertising in or over any medium of communication within the United States that offers passage or solicits passengers for ocean voyages anywhere in the world must contain the safety information statement prescribed in paragraph (b) of this section if—

- (1) A vessel is named; or
- (2) A voyage is described by—
 - (i) A stated port or area of departure;
 - (ii) A stated port or area of destination; or
 - (iii) A schedule of days of departure or arrival.

(b) The safety information statement required in paragraph (a) of this section must include—

- (1) The name of the vessel;
- (2) The country of registry; and
- (3) One of the following statements, as appropriate:

(i) This vessel complies with international safety standards, except the 1966 fire safety standards.

(ii) This vessel complies with international safety standards developed prior to 1960. There is (or, is not) an automatic sprinkler fitted in the passenger living and public spaces. The hull, decks, deckhouses, structural bulkheads, and internal partitions are (or, are not) composed of combustible materials.

(iii) This vessel does not comply with any international safety standard. There is (or, is not) an automatic sprinkler fitted in the passenger living and public spaces. The hull, decks,

deckhouses, structural bulkheads, and internal partitions are (or, are not) composed of combustible materials.

(c) The safety information statement prescribed in paragraph (b) of this section must be—

(1) Printed in a type no smaller than 6 points, American point system, that is the same size as any other textual matter of the promotional literature or advertising, including any headings;

(2) Headed "SAFETY INFORMATION" in the same size type that is used in the safety information statement; and

(3) Separated from other portions of the text by double spacing or box ruling.

(d) If the promotional literature or advertising lists two or more passenger vessels, the owner or operator shall clearly indicate the safety information prescribed in paragraph (b) of this section for each vessel, but unnecessary repetition is not required.

(e) Each brochure, pamphlet, schedule, and similar publication required in paragraph (a) of this section to contain safety information must—

(1) State the safety information prescribed in paragraph (b) of this section at least once for each vessel named; and

(2) Include a reference in the index of contents or the cover regarding the page number where the safety information for each vessel is located.

(f) The section does not apply to—

(1) An advertising sign that is towed, displayed, or written by aircraft;

(2) An advertisement in a trade publication that is directed to the professional counselors in the travel industry and not intended or used for general distribution to the public for solicitation of passage on a vessel; or

(3) An advertisement within a magazine, newspaper, periodical, or similar publication that is—

(i) Produced outside of the United States;

(ii) Not an American edition; and

(iii) Primarily distributed in the country in which it is produced.

§ 80.40 Civil penalty.

For each violation of the regulations in this part, the owner, operator,

Coast Guard, DOT

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agent, or other person involved is subject to the penalties prescribed in 46 U.S.C. 362(b).

PARTS 81-89 [RESERVED]

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SUBCHAPTER H—PASSENGER VESSELS

In general, references in this index pertain to new construction or installations. For existing vessels or installations, see the "application" in the text covering the particular referenced part, subpart, section, etc.

EDITORIAL NOTE: This listing is provided for informational purposes only. It is compiled by the Coast Guard, Department of Transportation.

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*EDITORIAL NOTE: At 48 FR 50996, Nov. 4, 1983, the Coast Guard established subchapter S of title 46. Parts 73 and 74 of subchapter H were removed and many of those regulations were transferred to the new subchapter S. To find the new section designations of old parts 73 and 74, see the Redesignation Tables (particularly the Distribution Tables) in the Finding Aids section of this volume.

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FINDING AIDS

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(Revised as of October 1, 1990)

The Director of the Federal Register has approved under 5 U.S.C. 552(a) and 1 CFR Part 51 the incorporation by reference of the following publications. This list contains only those incorporations by reference effective as of the revision date of this volume. Incorporations by reference found within a regulation are effective upon the effective date of that regulation. For more information on incorporation by reference, see the preliminary pages of this volume.

46 CFR SUBCHAPTER H

COAST GUARD, DEPARTMENT OF TRANSPORTATION

46 CFR

American Bureau of Shipping

45 Eisenhower Drive, Paramus, NJ 07652

Rules for Building and Classing Steel Vessels, 1981 70.35-1; 71.15-1;
72.01-15; 72.01-20

American Society for Testing and Materials

1916 Race St., Philadelphia, PA 19103

ASTM D 93-80 Tests for Flash Point by Pennsky-Martens Closed Tester. 78.17-75

Coast Guard

Commandant [C-MVI], 2100 2nd St., SW., Washington, DC 20593

160.014—"Compass and Mounting, dated Dec. 14, 1944" (Specification for Compasses: Magnetic, Liquid-filled, Mariners, Compensating, for Life Boats (with mounting) for Merchant Vessels), 1944. 75.20-15

Naval Publications and Forms Center

Customer Service, Code 1052, Philadelphia, PA 19120

Federal Specification: ZZ-H-451 Hose, Fire, Woven-jacketed Rubber or Cambric-lined, with Couplings, F. 76.10-10

International Maritime Organization (formerly Inter-Governmental Maritime Organization)

IMO Sales, New York Nautical Instrument and Service Corp., 140 W. Broadway, New York, NY 10013

A/ES III Res. 106 Annexes I thru IV dated Nov. 30, 1966 Amendments to Chapter II of the International Convention for Safety of Life at Sea, 1960, (adopted as part of International Convention for the Safety of Life at Sea, 1974), 1966. 80.20

National Fire Protection Association

Batterymarch Park, Quincy, MA 02269

56A—Inhalation Anesthetics (Replaces former "Code for Flammable Anesthetics"), 1973. 72.05-10

306—Control of Gas Hazards on Vessels, 1980 71.60-1

Underwriters Laboratories

333 Pfingsten Rd., Northbrook, IL 60062

UL 19-78 Woven-Jacketed, Rubber-Lined Fire Hose 76.10-10

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	45, XVIII

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United States Customs Service	19, I
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United States International Development Cooperation Agency	22, XII
United States International Trade Commission	19, II
United States Postal Service	39, I
United States Soldiers' and Airmen's Home	5, XI
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Redesignation Tables

At 48 FR 50996, Nov. 4, 1983, the Coast Guard established Subchapter S containing the subdivision and stability regulations for merchant vessels. Subchapter S regulations were transferred in part from various places throughout Title 46 and Title 33. For the convenience of the user, the following Derivation Table and Distribution Table II show the relationship of the old regulations to the new regulations in Subchapter S. Distribution Table I shows where certain old stability rules not contained in Subchapter S are being transferred. Abbreviations of referenced materials used in the tables below include: NVC for Navigation and Vessel Inspection Circular, MSM for Marine Safety Manual, MMTN for Merchant Marine Technical Note, and IMO Res. for International Maritime Organization Resolution. Numerical references are to regulations in Title 46 unless otherwise noted.

DERIVATION TABLE

New regulation	Old regulation	Other old regulations containing the same or similar requirement
170.001		31.10-30(a), 73.01-1, 74.01, 107.01, 107.111, 93.01-1, 167.20-5, 167.20-20, 168.05-5, 178.01, 179.01, 191.01, 153.806(a), 153.15, 153.16, 154.1, 73.90, 74.90, 93.07-90, 33 CFR 157.01
170.005	30.01-10	179.15-1, 91.45
170.010	108.105	30.15-1, 175.15, 90.15, 70.15, 188.15, 108.335(c), 153.10, 154.8, 33 CFR 157.07
170.015	New	
170.050	New	
(a)		
(b)		30.10-17, 70.10-9, 90.10-7, 151.03-15, 153.1, 175.10-5, 107.111, 167.05-10, 188.10-19
(c)	178.05-15	
(d)	90.05-10(b)	30.10-33, 30.10-6(b), 151.03-29, 70.05-10(b), 70.10-17, 175.10-11, 188.10-31, 93.20-1
(e)	90.10-19	30.10-41, 70.10-23, 151.03-33, 175.10-17, 188.10-39
(f)	175.10-25	30.10-45, 70.10-31, 151.03-39, 90.10-25, 188.10-51
(g)	90.10-27	30.10-47, 70.10-33, 151.03-41, 175.10-26, 188.10-55
(h)	33 CFR 157.03	
(i)	178.05-17	
(j)	178.05-19	
(k)	175.10-33	70.10-39, 90.10-33, 151.03-45, 188.10-61, 30.10-61
170.055		
(a)	175.10-38	
(b)	90.10-2	30.10-65, 70.10-2, 151.03-7, 175.10-23, 188.10-5

DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
(c)	33CFR 157.03	73.05-4, 153.4, 191.05-4
(d)	178.05-1	73.05-5, 191.05-5
(a)	108.301(c)	
(f)	108.301(d)	
(g)	73.05-7	191.05-7
(h)		42.13-5, 73.05-3, 153.2, 154.3, 175.10-16, 191.05-3, 33 CFR 157.03
(i)	33 CFR 157.03	30.10-38, 31.10-30(f)(1)
(j)	New	
(k)	73.05-8	33 CFR 157.03, 154.3, 153.30(a), 191.05-8
(l)	175.10-36	70.10-42
(m)	New	
(n)	30.10-69	
(o)	30.10-65	
(p)	30.10-67	
(q)		70.10-45, 90.10-37, 151.03-55
(r)	(New)	
170.070	107.301	31.10-5(a), 71.85-1, 188.55-1, 91.55-1, 167.20-25, 168.05-5, 179.01-1
170.075		
(a)(1)	107.305(b)	71.65-5(a)(2), 167.20-25(a)(1) and (c), 177.05-1(a)(4), 189.55-5(a), 91.55-5(a)(2), 168.05-5, 31.10-5(a), 33 CFR 157.24(b), 154.4, 153.8
(a)(2)	107.305(q)	71.65-5(c)(1), 167.20-25(a)(3) and (c), 177.05-3(a)(1), 189.55-5(c)(1), 91.55-5(c)(1), 168.05-5, 31.10-5(a), 33 CFR 1, 24, 154.4, 153.8

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DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
(a)(3)	107.305(r)	71.65-5(c)(2), 167.20-25(a)(4) and (c), 177.05-3(a)(2), 189.55-5(c)(2), 91.55-5(c)(2), 168.05-5, 31.10-5(a), 33 CFR 157.24(b), 154.4, 153.8.
(a)(4)	107.305(s)	71.65-5(c)(5), 167.20-25(b) and (c), 177.05-3(a)(3), 189.55-5(c)(3), 91.55-5(c)(3), 168.05-5, 31.10-5(a), 33 CFR 157.24(b), 154.4, 153.8.
(a)(5)	107.305(t)	71.65-5(c)(6), 167.20-25(b) and (c), 189.55-5(c)(4), 91.55-5(c)(4), 168.05-5, 31.10-5(a), 33 CFR 157.24(b), 154.4, 153.8.
(a)(6)	107.305(u)	71.65-5(c)(7), 167.20-25(b) and (c), 189.55-5(c)(5), 91.55-5(c)(5), 168.05-5, 31.10-5(a), 33 CFR 157.24(b), 154.4, 153.8.
(b)	177.05-1	
170.080	107.305(v)	177.05-3(b), 191.30-1(b), 168.05-5, 31.10-5(b), 74.20-1(b), 93.10-1(a).
170.085	108.337	93.05-5(a) and (b), 74.05-5(a) and (b), 191.15-5(a), 153.806, 154.205(a), 167.20-25(b), 168.05-5, 31.10-30(b)(2).
170.090		177.05-3(b), (d), and (e), 71.65-5(c)(3) and (4), 167.20-25(b), 168.05-5, 31.10-5(a), 107.305(u-1), 191.20-15(b)(8), 108.329, 108.313, 91.55-5(c), 33 CFR 157.24(b).
170.093	New	
170.095	MMTN 3-69	
170.100	107.317	71.65-15, 177.05-1(a), 177.05-3(a), 189.55-15, 91.55-20, 167.20-25(c), 168.05-5.
170.105	179.01-1	
170.110		
(a)	109.121(a)	74.20-1(a), 74.20-15(a) and (b), 93.10-1(a), 154.1809(a), 153.806(b), 191.30-1(a), 154.205(a), 153.806(a), 168.05-5, 31.10-30(b)(4), 167.20-20, 191.30-15.
(b)	109.121(b)	74.20-1(b), 93.10-1(a), 191.30-1(b), 154.205(a), 31.10-30(b)(4), 168.05-5, 167.20-20, 153.806(a).
(c) and (d)	109.121(d)	74.20-1(a), 74.20-15(a), 154.1809(b), 191.30-15(a), 154.205(a), 168.05-5, 31.10-30(b)(4), 167.20-20, 153.806(a), 74.20-5, 93.10-1(a) and (b), 154.1809(c), 191.30-1(a), 153.806(b), 74.20-10, 191.30-10.
(e)	New	

DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
170.120:		
(a)	74.25-1	31.10-30(b)(5), 179.20(a) and (b), 191.35-1, 161.35-5, 154.205(a), 31.10-30(b)(4), 168.05-5, 153.806(a), 167.20-20, 93.15-1, 93.15-5.
(b)	New	
170.125	MMTN 3-69	
170.135:		
(a)	109.121(d)(6)	
(b)	109.121(d)(6)	
170.130:		
(a)	74.12-11	
(b)	74.12-7	
(c)	74.12-3	
170.160		31.10-30(a)(1), 74.01-1, 179.01-1, 93.01-1, 93.07-1, 153.806, 154.205(a), 167.20-20, 168.05-5, 191.20-5, MMTN 3-69.
170.170:		
(a)	74.10-5	31.10-30(b)(3), 93.07-10, 153.806(a), 154.205(a), 167.20-20, 168.05-5, 179.10-5, 191.20-5.
(b)	74.10-5	31.10-30(b)(3), 93.07-10, 153.806(a), 154.205(a), 167.20-20, 168.05-5, 179.10-5, 191.20-5.
(c)	MMTN 3-68	
(d)	74.10-11	31.10-30(b)(3), 93.07-15, 153.806(a), 167.20-20, 168.05-5, 179.10-5, 191.20-10.
170.173	New	NVC 3-73, IMO Res. A469(XII).
170.174		93.05-1(a), 74.05-1(a), 167.20-20, 31.10-30(b)(1), 168.05-5, 179.05-1, 191.15-1, 154.205(a), 153.806, 93.01-1, 108.335.
170.175:		
(a)	108.335(a)	93.05-1(a), 74.05-1(a), 191.15-1(a), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(1), 179.10-3.
(b)	108.335(b)	93.05-1(a), 74.05-1(a), 191.15-1(a), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(1), 179.10-3.
(c)	108.335(c)	93.05-1(b), 74.05-1(b), 191.15-1(b), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(1), 179.10-3.
(d)	93.05-1	
170.180	74.05-(a)&(b)	93.05-5(a) and (b), 108.337, 153.806, 191.15-5(a), 154.205(a), 168.05-5, 167.20-25(a), 31.10-30(b)(1), 179.10-3, 179.10-5, 189.55-5(c).

Redesignation Tables

DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
170.185:		
(a).....	108.339(a)	93.05-5(c)(3), 74.05-5(c)(3), 191.15-5(b)(3), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(2), 179.10-3, 179.10-5.
(b).....	108.339(b)	93.05-5(c)(2), 74.05-5(c)(2), 191.15-5(b)(2), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(2), 179.10-3, 179.10-5.
(c).....	108.339(c)	93.05-5(c)(4), 74.05-5(c)(4), 191.15(b)(4), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(2), 179.10-3, 179.10-5.
(d).....	108.339(d)	93.05-5(c)(5), 74.05-5(c)(5), 191.15-5(b)(5), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(2), 179.10-3.
(e).....	108.339(e)	93.05-5(c)(5), 74.05-5(c)(5), 191.15-5(b)(5), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(2), 179.10-3.
(f).....	108.339(f)	
(g).....	108.339(g)	
170.190.....	108.341	93.05-5(c)(1), 74.05-5(c)(1), 191.15-5(b)(1), 153.806, 154.205(a), 167.20-20, 168.05-5, 31.10-30(b)(2), 179.10-3, 179.10-5.
170.200.....		31.10-30(c) through (f).
170.235.....	74.15-5	168.05-5, 191.25-5, 93.13-5, 109.581, 153.806(a), 154.205(a), 167.20-30, 178.10-1.
170.245.....	MMTN 4-67	
170.248.....	New	
170.250:		
(a).....	73.35-1(a)	167.20-5, 168.05-5, 191.10-25(b).
(b).....	73.35-1(a)	167.20-5, 168.05-5, 191.10-25(b).
(c).....	73.35-1(b)	167.20-5, 168.05-5.
(d).....	73.35-17	
170.255:		
(a).....	73.35-5(a)	167.20-5, 168.05-5, 191.10-25(c).
(b).....	73.35-5(b)	167.20-5, 168.05-5.
(c).....	New	
170.260:		
(a).....	73.35-10(a)	167.20-5, 168.05-5, 191.10-25(d)(1).
(b).....	73.35-10(b), 73.35-10(c)	167.20-5, 168.05-5, 191.10-25(d)(2).
(c).....	73.35-10(b)	167.20-5, 168.05-5, 191.10-25(d)(2).
(d).....	73.35-10(b)	167.20-5, 168.05-5, 191.10-25(d)(2).
170.265:		
(a).....	73.35-15(a)	167.20-5, 168.05-5.
(b).....	73.35-15(b)	167.20-5, 168.05-5, 191.10-25(e).
(c).....	73.35-15(c)	167.20-5, 168.05-5, 191.10-25(e).
(d).....	73.35-15(d)	167.20-5, 168.05-5.

DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
170.270:		
(a).....	73.35-20(a)	167.20-5, 168.05-5.
(b).....	73.35-30(b)	167.20-5, 168.05-5, 191.10-25(f)(2).
(c).....	73.35-30(c)	167.20-5, 168.05-5, 191.10-25(f)(3).
(d).....	73.35-25(a)	167.20-5, 168.05-5, 191.10-25(f)(3).
170.275:		
(a).....	73.35-17(a)	167.20-5, 168.05-5.
(b).....	73.35-17(b)	167.20-5, 168.05-5.
(c).....	73.35-17(a)	167.20-5, 168.05-5.
170.285.....	154.225	31.10-30(b)(3), 151.10-15(b), 153.31, 74.10-1, 167.20-20, 168.05-5, 191.20-1, 93.07-5, 93.20-05(c).
170.290.....	154.225	31.10(b)(3), 151.10-15(b), 153.31, 74.10-1, 167.20-20, 168.05-5, 191.20-1, 93.07-5, 33 CFR 157, App. B, paragraphs 4 (d) & (e), 93.20-05(c).
170.295.....	MMTN 2-69	
170.001.....	New	
171.010:		
(a).....	178.05-9	
(b).....	73.05-2	191.05-2
(c).....	New	
(d).....		70.10-15, 175.10-9
(e).....	73.05-12	
(f).....	178.05-7	
(g).....	70.05-10	
(h).....	73.05-10	
(i).....	178.05-13	
(j).....	73.05-11	
(k).....	New	
(l).....	70.10-43	
(m).....	New	
(n).....	178.05-11	
171.015:		
(a).....	73.05-6(a)	167.20-5, 168.05-5, 191.05-6(b).
(b).....	73.05-6(b)	167.20-5, 168.05-5, 191.05-6(a).
(c).....	73.05-6(a)	167.20-5, 168.05-5, 191.05-6(a).
(d).....	73.05-6(a)	167.20-5, 168.05-5, 191.05-6(a).
171.017.....	178.10-1	
171.020.....		175.05-5(a), 178.01-1, 178.10-1, 178.10-5, 178.10-10, 179.01-1.
171.030:		
(a).....		179.05, 179.10-3(a).
(b).....		179.10-1(a), 179.10-1(b), 179.10-1(c).
(c).....		179.10-1(d), 179.10-1(e).
(d).....		179.10-1(f), 179.10-1(g).
(e).....	179.10-1(f)-(g)	
(f).....	179.10-1(f)	
(g).....	179.10-1(h)	
(h).....	179.10-1(f)	
171.035.....	MMTN 3-68	
171.040:		
(a).....		178.10-1(a), 178.10-1(b), 178.20-1(b), 178.10-5(a), 178.10-5(b), 178.10-10.
(b).....		

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DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
(c)	178.25-1(b)	
(d)	178.15-5	
171.043:		
(a)	178.20-1(a)	
(b)	178.20-1(a)	
171.045		175.05-5(a) & (b), 178.01-1, 178.10-1, 178.20-5, 179.01-1, 70.05-1(a), 73.01-1, 74.01-1, 73.10-1, 179.10-5.
171.050	74.10-10	
171.055	MMTN 3-68	
171.057	MMTN 1-69	
171.060:		
(a)		73.10-1(a), 73.10-2, 73.12-1, 74.10-2
(b)		178.20-5, 73.15 (title)
(c)		73.20-1(a), 178.10-1(a)
(d)	73.20-1(a)	178.15-15
171.065:		
(a)		73.10-10, 73.10-15, 73.10-20
(b)	73.10-23	73.10-15, 73.10-20
(c)	73.10-30(a)	
(d)	73.10-35	
(e)	73.10-55	
(f)	73.10-60	
(g)	73.10-60	
(h)	73.10-60	
(i)	New	
(j)	New	
171.068:		
(a)		73.10-5(a), 73.10-5(b)(1), 73.10-5(c)(1), 73.10-30(b)
(b)	73.10-5(b)(2)	
(c)	73.10-5(d)	
(d)	73.10-5(e)	
171.067:		
(a)	New	
(b)	73.10-40	
(c)	73.10-45	
(d)	73.10-45	
(e)	73.10-55	
(f)	73.10-50	
171.068:		
(a)		73.10-65(a), 73.10-65(b)(1) and (2), 73.10-1(b)
(b)		73.10-65(b)(2)(i)
(c)		73.10-65(b)(2)(iv)
171.070:		
(a)	73.15-5(b)-(f)	
(b)	73.15-10(a)-(c)	
(c)	73.15-10(a)	
(d)	73.15-10(a)	
(e)	73.15-15	178.20-5(b)
(f)	New	
(g)	73.15-15	178.20-5(b)
171.072	73.15-1	
171.073:		
(a)	73.15-20	73.15-25(a) and (b)
(b)		
(c)	73.15-30	
171.075:		
(a)	73.12-5	
(b)	73.12-7	
(c)	73.12-3	

DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
171.080:		
(a)		74.10-15(a) and (b), 179.10-5.
(b)	74.10-15(c)(4)	179.10-5.
(c)	74.10-15(c)(3)	179.10-5.
(d)	74.10-15(c)(7)	179.10-5.
(e)	74.10-15(c)(5)	179.10-5.
171.082:		
(a)	74.10-2	74.12-1, 74.12-5.
(b)	74.12-7	
(c)	74.12-3	
(d)	74.12-9	
171.085:	New	
(a)	73.20-1(a)	
(b)	73.20-1(a)	
(c)	73.20-1(a)	
(d)	73.20-1(a)	
(e)	73.20-1(b)	
(f)	73.20-1(b)	
(g)	73.20-1(c)	73.30-15(a)(1)
(h)	178.15-3	
(i)	178.15-3	
(j)	178.15-1	
171.090		73.20-10, 178.15-5.
171.095	73.20-5	
171.100:		
(a)	73.20-15	
(b)	73.30-25(b)	
(c)	73.30-25(b)	
(d)	73.30-25(b)	
171.105:		
(a)	73.25-1	
(b)	73.25-5(b)	
(c)	73.25-5(c)	
(d)	73.25-5(d)	
(e)	73.25-5(e)	
(f)	73.25-5(e)	
(g)	73.25-5(f)	
(h)	73.25-5(g)	
171.106	73.25-10	
171.108	73.25-15	
171.109	73.25-20	
171.110	New	
171.111:		
(a)	73.30-1	
(b)	73.30-35	
(c)	73.30-1	
(d)	73.30-10	
(e)	73.30-5	
(f)	73.30-40	
(g)	73.30-40	
(h)	73.30-15(a)(2)	
171.112:		
(a)	73.30-25(a)	
(b)	73.30-25(b)	
171.113:	New	
(a)	73.30-30(b)	
(b)	73.30-30(b)	
(c)	73.30-30(a)	
171.114:		
(a)	178.25-1(c)	
(b)	178.25-1(d)	
(c)	178.25-1(b)	
171.115	Repealed	

Redesignation Tables

DERIVATION TABLE—Continued

DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
171.116:		
(a).....	73.40-5(a)	
(b).....	73.40-5(b)(1)	
(c).....	73.40-5(b)(1)	
(d).....	73.40-5(b)(3)	
(e).....	73.40-5(b)(4)	
(f).....		73.40-5(b)(2), 73.40-5(b)(5).
171.117:		
(a).....	73.40-5(c)(1)	
(b).....	73.40-5(c)(1)	
(c).....	73.40-5(c)(1)	
(d).....	73.40-5(c)(2)	
171.118:		
(a).....	73.40-10	
(b).....	73.40-15	
(c).....	73.40-15	
171.119:		
(a).....		178.40-1(b) and (c).
(b).....	178.40-1(d)	
(c).....	178.40-1(e)	
(d).....	178.40-1(e)	
(e).....	178.40-1(d)	
(f).....	178.40-1(d)	
171.120	New	
171.122:		
(a).....	New	
(b).....	73.45-5(a)	
(c).....	73.45-1(a)	
(d).....	73.45-1(b)	
(e).....	73.45-1(b)	
(f).....	73.45-5(b)	
(g).....	73.45-10(b)	
171.124:		
(a).....		178.35-1(a), (b), and (c).
(b).....	178.35-1(d)	
(c).....	178.35-1(e)	
(d).....	178.35-1(f)	
(e).....	178.35-1(f)(1)	
171.130	New	
171.135	73.45-5(c)	
171.140	178.30-1	
171.145:		
(a).....	178.30-3(a)	
(b).....	178.30-3(b)	
(c).....	178.30-3(b)	
(d).....	178.30-3(c)	
(e).....	178.30-3(d)	
(f).....	178.30-3(d)	
171.150:		
(a).....	178.30-5(a)	
(b).....		178.30-5(b), (c), and (d).
(c).....	178.30-5(b)	
(d).....	178.30-5(b)	
171.155	178.30-7	
172.005		93.20-01, 30.25-1-151.01-10(b), 153.5, 154.2, 153.806(a), 154.205(a), 33 CFR 157.08.
172.047	32.63-1	
172.050:		
(a).....	32.63-5	
(b).....	32.63-15(b)	
(c).....	32.63-15(b)	
(d).....	32.63-15(b)	
(e).....	32.63-15	
(f).....	New	
	New	

New regulation	Old regulation	Other old regulations containing the same or similar requirement
172.060		33 CFR 157.01, 157.08, 157.21.
172.065:		
(a).....	33 CFR 157.03(a).	
(b).....	33 CFR 157.21.	
(c).....		33 CFR 157—Appendix B—para. (2).
(d).....		33 CFR 157—Appendix B—para. (3)(a), para. (3)(c), and para. (3)(d).
(e).....		33 CFR 157—Appendix B—para. (3)(b).
(f).....		33 CFR 157—Appendix B—para. (4)(a)–(b).
(g)(1).....	33 CFR 157.21(a).	
(g)(2).....	33 CFR 157.21(b).	
(g)(3).....	33 CFR 157.21(c).	
(g)(4).....		33 CFR 157—Appendix B—para. (3)(e).
(h).....		33 CFR 157—Appendix B—para. (4)(c).
172.080	151.01-10	
172.085	New	
172.087	151.10-15(b)	
172.090:		
(a).....	151.10-5(a)	
(b).....	151.10-5(b)	
(c).....	151.10-5(b)	
(d).....	151.10-5(a)	
172.095	151.10-6	
172.100:		
(a).....		151.10-10(a)(1).
(b).....		151.10-10(a)(1).
(c).....		151.10-10(a)(1).
172.103	New	
172.104:		
(a).....		151.10-10(a)(2).
(b).....		151.10-10(a)(2).
(c).....		151.10-10(a)(3).
172.105:		
(a)(1).....		151.10-10(b)(2).
(a)(2).....		151.10-10(b)(1).
(a)(3).....	New	
(b).....		151.10-10(b)(3).
172.110:		
(a).....	New	
(b).....	New	
(c).....		151.10-10(c)(1).
(d).....		151.10-10(c)(1).
(e).....		151.10-10(c)(2).
(f).....		151.10-10(c)(2).
(g).....		151.10-10(c)(2).
(h).....		151.10-10(c)(2).
(i).....		151.10-10(c)(2).
172.125	153.1	
172.127	153.2	
172.130:		
(a).....		153.15, 153.16, 153.20 through 22.
(b).....	153.5	
172.133:		
(a).....	153.20	
(b).....	153.21	
(c).....	153.22	

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DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
(d).....	153.32(c).....	
172.135:		
(a).....	153.32(a).....	
(b).....	153.32(a).....	
172.140:		
(a).....	153.30(b).....	
(h).....	153.30(b).....	
(c).....	153.30(c).....	
172.150:		
(a).....	153.34(b).....	
(b).....	153.34(a).....	
(c).....	153.34(c).....	
(d).....	153.34(f).....	
(e).....	153.34(a).....	
(f).....	153.34(d).....	
(g).....	153.34(g).....	
(h).....	153.34(h).....	
172.155.....		154.1, 154.2.
172.160:		
(a).....	154.3.....	
(b).....	154.3.....	
172.165.....	154.205(b).....	
172.170:		
(a).....	154.210(a).....	
(b).....	154.210(b).....	
172.175:		
(a).....	154.215(a).....	
(b).....	154.215(b).....	
(c).....	154.215(c).....	
(d).....	154.215(d).....	
(e).....	154.215(e).....	
(f).....	154.215(e).....	
172.180:		
(a).....	154.220(a).....	
(b).....	154.220(b).....	
172.185:		
(a).....	154.225(d).....	
(b).....	154.225(c).....	
(c).....	154.225(e).....	
172.195:		
(a).....	154.230(b).....	
(b).....	154.230(a).....	
(c).....	154.230(c).....	
(d).....	154.230(h).....	
(e).....	154.230(e).....	
(f).....	154.230(d).....	
(g).....	154.230(g).....	
(h).....	154.230(h).....	
172.205.....	154.230(f).....	
173.001.....	New.....	
173.005.....	New.....	
173.007.....	MMTN 3-69.....	
through.....		
173.025.....		
173.050.....	167.20-5.....	
173.065.....	167.20-5.....	
173.060.....	168.05-5.....	
173.070.....		191.01-1, 188.05-1.
173.075:		
(a).....		191.10-1, 191.10-5, 191.10-10, 191.10-13.
(b).....	191.10-15.....	
173.080.....		191.20-15(a), (b)(1)-(7), and (c).
173.085:		
(a).....		191.10-15(a), 191.10-20(e).
(b).....	191.10-16.....	
(c).....	191.10-17.....	
(d).....	191.10-18.....	

DERIVATION TABLE—Continued

New regulation	Old regulation	Other old regulations containing the same or similar requirement
(e).....	191.10-19.....	
(f).....		191.10-20(a)-(c) and (f).
(g).....	191.10-20(g).....	
(h).....		191.10-20(b)(2).
(i).....	191.10-30(b).....	
(j).....		191.10-30(c)(2).
(k).....		191.10-30(c)(1).
(l).....	191.10-30(d).....	
(m).....	191.10-35.....	
(n).....		191.10-35(b)(2).
(o).....	191.10-20(d).....	
173.080.....	65-4-C.....	
	MSM.....	
173.095.....	65-4-C.....	
	MSM.....	
174.005.....		93.07-15, 107.01.
174.010.....	MMTN 3-69.....	
through.....		
174.020.....		
174.030.....	107.01.....	
174.035:		
(a).....	107.111.....	
(b).....	108.301.....	
174.040.....	108.303.....	
174.045:		
(a).....	108.305(a).....	
(b).....	108.305(b).....	
(c).....	108.305(c).....	
(d).....	108.305(d).....	
174.050.....	108.309.....	
174.055.....		
(a).....	108.311(a).....	
(b).....	108.311(b).....	
(c).....	108.311(c).....	
174.065.....		
(a).....	108.315(a).....	
(b).....	108.315(b).....	
174.070.....		
(a).....	108.317(a).....	
(b).....	108.317(b).....	
174.075.....	108.319.....	
174.080.....		
(a).....	108.321(a).....	
(b).....	108.321(b).....	
174.085.....		
(a).....	108.323(a).....	
(b).....	108.323(b).....	
174.090.....	108.325.....	
174.100.....		108.114, 108.115.
174.110.....	79.01-1.....	37.01-1, 99.01-1.
174.115.....	79.05-5(a).....	37.05-5(a), 99.05-5(a).
174.120.....	79.05-5(a).....	37.05-5(a), 99.05-5(a).
174.125.....	79.05-5(a)-(b).....	37.05-5(a)-(b), 99.05-5(a)-(b).
174.140.....	65-4-C.....	
	MSM.....	
174.145.....	65-4-C.....	
	MSM.....	
174.150.....	106.400(a).....	
174.155.....	106.400(a).....	
174.160.....	106.400(b).....	
174.165.....	106.403.....	
174.170.....	106.405.....	

Redesignation Tables

DISTRIBUTION TABLE I

Old rule	New location in 46 CFR
73.35-20(d)	163.001-4.
73.40-5(b)(4)	78.16-1.
74.10-12	72.30-5.
74.25-1(a)	78.12-1.
93.15-1	97.11-1.
179.20-1	185.12-1.
191.25-10	196.18-1.
191.35-1	196.12-1.

DISTRIBUTION TABLE II

Old regulation	New regulation
31.10-30:	
(a)(1)	170.160, 170.001.
(a)(2)	170.001.
(b)(1)	170.175, 170.174.
(b)(2)	170.085, 170.185, 170.190.
(b)(3)	170.170.
(b)(4)	170.110, 170.120.
(b)(5)	170.120.
(c)	170.200.
(d)	170.200.
(e)	170.200.
(f)(1)	170.055(i).
(f)(2)	170.200.
32.63-1	172.047, 172.050.
32.63-15	172.047, 172.050.
37.05-5	174.110-174.125.
71.65-5	170.075, 170.090.
73.01-1	170.001, 171.045.
73.05-1	Deleted—unnecessary.
73.05-2	171.010(b).
73.05-3	170.055(h)(1).
73.05-4	170.055(c).
73.05-5	170.055(d).
73.05-6	171.015.
73.05-7	171.055(g).
73.05-8	170.055(k).
73.05-9	Deleted—unnecessary.
73.05-10	171.010(h).
73.05-11	171.010(j).
73.05-12	171.010(e).
73.10-1:	
(a)	171.045, 171.060.
(b)	171.066.
73.10-2	171.060.
73.10-3	Deleted—unnecessary.
73.10-5	171.066.
73.10-10	171.065(a).
73.10-15	171.085 (a) and (b).
73.10-20	171.085 (a) and (b).
73.10-23	171.065(b).
73.10-25	171.015(d).
73.10-30	
(a)	171.065(c).
(b)	171.066(a).
73.10-35	171.065(d).
73.10-40	171.067(b).
73.10-45	171.067 (b) and (c).
73.10-50	171.067(f).
73.10-55	171.065(e), 171.067(e).
73.10-60	171.065(f).
73.10-65	171.066.
73.12-1	171.060.
73.12-3	171.075(c).
73.12-5	171.075(a).

DISTRIBUTION TABLE II—Continued

Old regulation	New regulation
73.12-7	171.075(b), 170.015.
73.12-9	Deleted—unnecessary.
73.15-1	171.072.
73.15-5:	
(a)	Deleted—unnecessary.
(b)-(f)	171.070(a).
73.15-10	171.070(b)-(d).
73.15-15	171.070(e).
73.15-20	171.073(a).
73.15-25	171.073(b).
73.15-30	171.073(c).
73.20-1	171.085.
73.20-5	171.095.
73.20-10	171.090.
73.20-15	171.100(a).
73.25-1	171.105(a).
73.25-5:	
(a)	Deleted—unnecessary.
(b)	171.105(b).
(c)	171.105(c).
(d)	171.105(d).
(e)	171.105 (e) and (f).
(f)	171.105(g).
(g)	171.105(h).
73.25-10	171.106.
73.25-15	171.108.
73.25-20	171.109.
73.30-1	171.111(c).
73.30-5	171.111(e).
73.30-10	171.111(d).
73.30-15	171.111(h), 171.065(g).
73.30-20	Deleted—unnecessary.
73.30-25:	
(a)	171.112(a).
(b)	171.112(b).
73.30-30	171.113 (b) and (c).
73.30-35	171.111(b).
73.30-40	171.111 (f) and (g).
73.35-1	170.250.
73.35-5	170.255.
73.35-10	170.260.
73.35-15	170.265.
73.35-17	170.275.
73.35-20(a)	170.270(a).
73.35-20(b)-(c).	Deleted—repetitious.
73.35-25(a)	170.270(d).
73.35-25(b)	Deleted—repetitious (see Table I).
73.35-30(a)	Deleted—unnecessary.
73.35-30 (b) and (c)	170.270.
73.40-1	Deleted—unnecessary.
73.40-5:	
(a) and (b)	171.116.
(c)	171.117.
73.40-10	171.118(a).
73.40-15	171.118 (b) and (c).
73.40-20	Deleted—unnecessary.
73.45-1	171.122(c)-(e).
73.45-5:	
(a)	171.122(b).
(b)	171.122(f).
(c)	171.135.
73.45-10	171.122(g).
73.90	170.001(b).
74.01-1	170.001, 171.045.
74.05-1	170.175.
74.05-5:	
(a) and (b)	170.180, 170.085.
(c)	170.185, 170.190.
74.10-1	170.020.
74.10-2	171.060.

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DISTRIBUTION TABLE II—Continued

Old regulation	New regulation
74.10-5	170.170.
74.10-10	171.050.
74.10-11	170.170(d).
74.10-15:	
(a)	171.080(a).
(b)(1)	171.080(a).
(b)(2)	Deleted—unnecessary.
(c)(1)	Deleted—unnecessary.
(c)(2)	Deleted—unnecessary.
(c)(3)	171.080(c).
(c)(4)	171.080(b).
(c)(5)	171.080(e).
(c)(6)	171.080(d).
(c)(7)	171.080(d).
(c)(8)	171.080(d).
(c)(9)	171.080(d).
(d)(1)	Deleted—unnecessary.
(d)(2)	Deleted—unnecessary.
74.10-20	Deleted—unnecessary.
74.12-1	171.060.
74.12-3	171.082(c).
74.12-5	171.082(a).
74.12-7	171.082(b).
74.12-9	171.082(d).
74.12-11	170.135(a).
74.15-1	Deleted—unnecessary.
74.15-5	170.235.
74.20-1	170.110.
74.20-5	170.110.
74.20-10	170.110.
74.20-15	170.110.
74.25-1	170.120.
74.90-1	170.001(b).
79.05-5	174.110-174.125.
81.55-5(c)	170.075.
93.01-1	170.001.
93.05-1	170.175.
93.05-5	170.180, 170.185.
93.07-1	170.160.
93.07-5	170.020.
93.07.10	170.170.
93.07-15	170.170.
93.07-90	170.001(b).
93.10-1	170.110.
93.13-1	Deleted—unnecessary.
93.13-5	170.235.
93.15-5	170.120.
99.05-5	174.110-174.125.
106.400	174.150, 174.155, 174.160.
106.403	174.165.
106.405	174.170.
107.305	170.075, 170.090.
108.114	174.100.
108.115	174.100.
108.301	174.035(b), 170.055(c)-(d).
108.303	174.040.
108.305	174.045.
108.309	174.050.
108.311	174.055.
108.313	170.090.
108.315	174.065.
108.317	174.070.
108.319	174.075.
108.321	174.080.
108.323	174.085.
108.325	174.090.
108.329	170.090.
108.335	170.174, 170.175.
108.337	170.180.
108.339	170.185.

DISTRIBUTION TABLE II—Continued

Old regulation	New regulation
108.341	170.190.
108.343	170.005.
109.121	170.110, 170.130.
109.561	170.235.
151.10-5	172.090.
151.10-6	172.095.
151.10-10:	
(a)	172.100, 172.104.
(b)	172.105.
(c)	172.110.
151.10-15:	
(a)	Deleted—unnecessary.
(b)	172.087.
153.20	172.130, 172.133(a).
153.21	172.130, 172.133(b).
153.22	172.130, 172.133(c).
153.30	170.055(k), 172.140.
153.31	170.285, 170.290.
153.32(a)	172.135.
153.32(b)	Deleted—unnecessary.
153.32(c)	172.133(d).
153.34	172.150.
153.35	Deleted—unnecessary.
153.806(a)	170.001, 170.085, 170.110, 170.120, 170.160, 170.170, 170.175, 170.180, 170.185, 170.235, 172.005, 172.015, 172.030.
153.806(b)	170.110.
154.200	170.020.
154.205(a)	170.001, 170.085, 170.110, 170.120, 170.160, 170.170, 170.175, 170.180, 170.185, 170.235, 172.005, 172.015, 172.030.
154.205(b)	172.165.
154.210	172.170.
154.215	172.175.
154.220	172.180.
154.225	
(a) and (b)	170.285.
(c)-(e)	172.185.
154.230	172.195.
154.1809	170.110.
167.20-5	173.060, 173.055.
167.20-20	170.110, 170.120, 170.170, 170.180, 170.174, 170.175, 170.185, 170.190.
167.20-25(a)	170.180.
167.20-25 (b) and (c).	170.070, 170.075, 170.080, 170.085, 170.090, 170.100.
167.20-30	170.235.
167.20-35	Deleted—unnecessary.
168.05-5	173.060, 170.070, 170.075, 170.080, 170.085, 170.090, 170.100, 170.110, 170.120, 170.160, 170.170, 170.174, 170.175, 170.180, 170.185, 170.190, 170.235, 170.250, 170.255, 170.260, 170.265, 170.270, 170.285, 170.290.
175.05-5	171.020, 171.045.
177.05-3	170.075, 170.090.
178.10-1	171.017, 171.045, 171.040.
178.10-5	171.040.
178.10-10	171.040.
178.15-1	171.085.
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